



PORT OF SPAIN CITY COUNCIL.



ANNUAL REPORT

ON THE

Vital Statistics, Sanitary Condition and Sanitary
Administration

OF THE

Urban Sanitary District of the City of Port-of-Spain

FOR THE YEAR 1928

BY

GEORGE H. MASSON, M.D., C.M., D.Sc. (Public Health), F.R.C.P.E., F.R.S.E.,
Medical Officer of Health.

TRINIDAD.

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August 1929



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With the Compliments of

Dr. GEORGE H. MASSON,

Medical Officer of Health,

Port-of-Spain, Trinidad, B.W.I.

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URBAN SANITARY DISTRICT OF THE CITY OF PORT-OF-SPAIN.

Report of the Medical Officer of Health for the Year 1928.

SECRETARY, LOCAL AUTHORITY.

SIR,

I have the honour to submit, for the information of the Local Authority, the following Annual Report on the vital statistics, sanitary condition and sanitary administration of the Urban Sanitary District of the City of Port-of-Spain for the year 1928.

1.—VITAL STATISTICS.

Short Summary.

| | | | | | | | | |
|---|-----|-----|----|----|----|----|----|------------------------|
| Area of City | .. | .. | .. | .. | .. | .. | .. | 1,514 acres. |
| Mean Population | .. | .. | .. | .. | .. | .. | .. | 66,383 |
| Density of Population | .. | .. | .. | .. | .. | .. | .. | 43.8 persons per acre. |
| Total live-births | .. | .. | .. | .. | .. | .. | .. | 1,868 |
| Birth-rate per 1,000 population | .. | .. | .. | .. | .. | .. | .. | 28.14 |
| Average Birth-rate for previous five years | .. | .. | .. | .. | .. | .. | .. | 28.92 |
| Total Deaths | .. | .. | .. | .. | .. | .. | .. | 1,476 |
| Death-rate per 1,000 population | .. | .. | .. | .. | .. | .. | .. | 22.23 |
| Average Death-rate for previous five years | .. | .. | .. | .. | .. | .. | .. | 23.31 |
| Total Deaths under one year | .. | .. | .. | .. | .. | .. | .. | 238 |
| Infant Mortality (Rate per 1,000 live-births) | .. | .. | .. | .. | .. | .. | .. | 127.41 |
| Average Infant Mortality for previous five years | .. | .. | .. | .. | .. | .. | .. | 146.96 |
| Total Still-births (Dead-born infants) | .. | .. | .. | .. | .. | .. | .. | 158 |
| Still-birth rate (Dead-born infants per cent. of registered live-births) | .. | .. | .. | .. | .. | .. | .. | 8.46 |
| Average Still-birth rate for previous five years | .. | .. | .. | .. | .. | .. | .. | 8.46 |
| Notifiable Infectious Diseases—Death-rate per 1,000 population | .. | .. | .. | .. | .. | .. | .. | 3.43 |
| Notifiable Infectious Diseases—Average death-rate for previous five years | .. | .. | .. | .. | .. | .. | .. | 4.27 |
| Cardiac and Vascular Diseases—Death-rate per 1,000 of population | .. | .. | .. | .. | .. | .. | .. | 3.22 |
| Pulmonary Tuberculosis | do. | do. | .. | .. | .. | .. | .. | 2.08 |
| Bright's disease and Nephritis | do. | do. | .. | .. | .. | .. | .. | 1.81 |
| Bronchitis | do. | do. | .. | .. | .. | .. | .. | 1.07 |
| Diarrhoea and Enteritis | do. | do. | .. | .. | .. | .. | .. | 0.95 |
| Malaria | do. | do. | .. | .. | .. | .. | .. | 0.86 |
| Pneumonia and Broncho-Pneumonia | do. | do. | .. | .. | .. | .. | .. | 0.77 |
| Cancer and other Malignant diseases | do. | do. | .. | .. | .. | .. | .. | 0.72 |
| Syphilis | do. | do. | .. | .. | .. | .. | .. | 0.47 |
| Dysentery | do. | do. | .. | .. | .. | .. | .. | 0.44 |
| Tuberculosis (non-pulmonary) | do. | do. | .. | .. | .. | .. | .. | 0.29 |
| Enteric Fever | do. | do. | .. | .. | .. | .. | .. | 0.21 |
| Ankylostomiasis | do. | do. | .. | .. | .. | .. | .. | 0.17 |
| Influenza | do. | do. | .. | .. | .. | .. | .. | 0.06 |
| Diphtheria | do. | do. | .. | .. | .. | .. | .. | 0.05 |

The principal causes of deaths for the five years 1923-1927 are compared with the corresponding statistics for 1928 in Table I.

Population.—The mean population of the City estimated to the middle of the year was 66,383, or a total increase of 810 persons over the number of inhabitants in the previous year. Of this number the natural increase of the population, *i.e.*, the excess of births over deaths, was 392, and the remainder, *viz.* : 418, may be attributed to an excess of immigration over emigration.

Area and Density.—The area of the City comprises 1,514 acres and the density of population 43.8 persons per acre.

Births.—The number of live births registered was 1,868, an excess of 115 over the previous year. There was a slight preponderance of female births over males, the former numbering 942 and the latter 926, which is the reverse of what is usually the case. The birth-rate worked out at 28.14 and exceeded

that of the preceding year, viz. 26.73, by 1.41 per 1,000 population. The average birth-rate for the previous five years was 28.92, being slightly in excess of the figures for the year under review. A statement of the births and birth-rates with the sex distribution is given in Table II.

Deaths.—The deaths totalled 1,476, of which 776 were males and 700 females, yielding a death-rate of 22.23 per 1,000 population, compared with 1,433 deaths and a death-rate of 21.85, being an increase of 43 and 0.38 respectively over the previous year, but a decline of 1.08 per 1,000 on the average mortality for the previous five years. Table III shows the sex distribution of the deaths and the death-rates month by month, and the age distribution of the deaths appears in Table IV. A monthly record of deaths of non-residents at the Colonial Hospital is given in Table V. Deaths from all causes are classified in Table VI, and the principal causes of deaths with the death-rates therefrom appear in the comparative summary of vital statistics for the quinquennium 1923-1927 and the year 1928 given in Table I.

Still-Births.—Still-births numbered 158, or 8.46 per cent. of the registered live-births, compared with 134 still-births, or 7.64 per cent. of live-births, registered in the preceding year. The still-birth rate for the previous five years was also 8.46, which showed that there was neither increase nor decrease in the rate at which lifeless infants are being born in the City. The number of still-births month by month and the still-birth rates are shown in Table VII.

Infant Mortality.—Deaths of infants under one year numbered 238, being two more than in the previous year—with an infant mortality rate of 127.41—a gratifying decrease of 17.22 deaths per 1,000 live-births on the corresponding rate for 1927. The proportion of deaths of infants under one year to the total deaths from all causes was 16.12 per cent., compared with 16.47 per cent. in preceding year.

The causes of infant mortality are classified in Table VIII and, for the purpose of comparison with corresponding statistics in previous annual reports, are grouped as follows:—

| | | | | | | |
|--|----|----|----|----|----|-------------------|
| Congenital syphilis, congenital debility, prematurity, marasmus, malnutrition and seven other conditions commonly attributed to ante-natal causes | | | | | | .. 54.2 per cent. |
| Gastro-intestinal diseases | .. | .. | .. | .. | .. | .. 24.4 do. |
| Respiratory diseases | .. | .. | .. | .. | .. | .. 10.1 do. |
| Malaria | .. | .. | .. | .. | .. | .. 2.1 do. |
| Dysentery | .. | .. | .. | .. | .. | .. 2.1 do. |
| Nine other causes of death, including meningitis, miliary tuberculosis, whooping cough, dentition, asphyxia, umbilical haemorrhage, worms, cerebral congestion and nephritis | | | | | | .. 7.1 do. |
| | | | | | | 100.0 |

The infant mortality rates for the seven years 1922-1928 are contrasted below:—

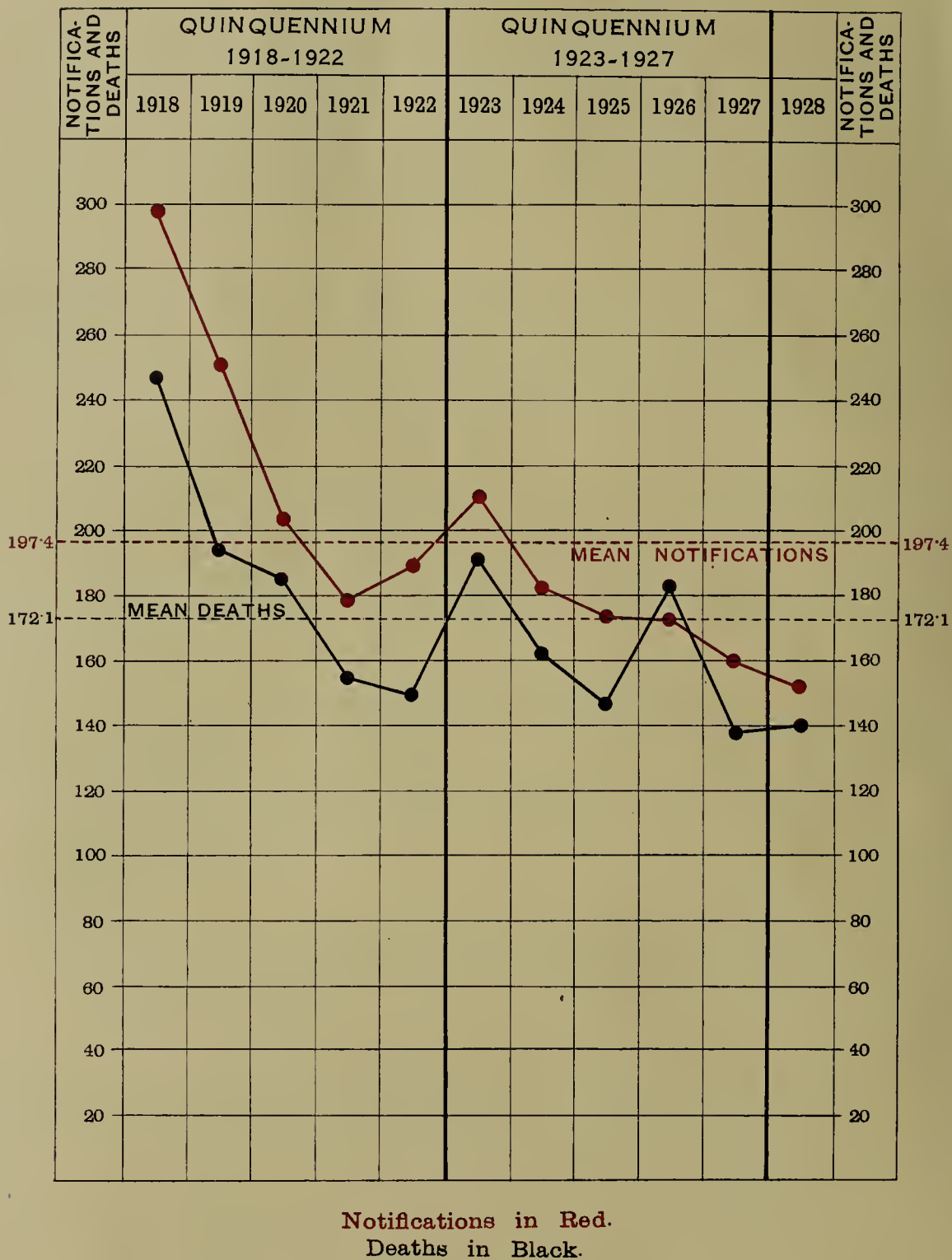
| | | | | | | |
|------|----|----|----|----|----|--------|
| 1922 | .. | .. | .. | .. | .. | 157.89 |
| 1923 | .. | .. | .. | .. | .. | 141.58 |
| 1924 | .. | .. | .. | .. | .. | 147.09 |
| 1925 | .. | .. | .. | .. | .. | 154.95 |
| 1926 | .. | .. | .. | .. | .. | 156.57 |
| 1927 | .. | .. | .. | .. | .. | 134.63 |
| 1928 | .. | .. | .. | .. | .. | 127.41 |

These declining figures, though far in excess of future possibilities, are not unsatisfactory when compared with the infant mortality rate of the preceding septennial period. They are, indeed, sufficiently encouraging to be regarded as an indication that with increased public support of the energetic efforts of the Child Welfare League, backed—as the situation clearly seems to call for—by municipal aid, a far more decisive check can be put on the appalling wastage which is annually taking place of the lives of the young and helpless human beings born in this prosperous City.

CHART A.

PULMONARY TUBERCULOSIS IN PORT-OF-SPAIN

Notifications and Deaths, 1918-1928



Notifications and Deaths from Pulmonary Tuberculosis for the Quinquennia 1918-1922 and 1923-1927 contrasted with the corresponding records for 1928.

Deaths at ages 1-5.—Deaths of children from one to five years numbered 100, of which 69 were boys and 31 girls, the former thus showing a mortality rate of more than double the latter. The causes of death in this age group are detailed in Table IX and may be summarised as follows :—

| | | | | | | | |
|--|------|------|------|------|------|------|-----|
| Stomach and bowel troubles, including gastro-enteritis, colitis, dysentery and diarrhoea | .... | .... | .... | .... | .... | .... | 31 |
| Respiratory diseases, including pneumonia and bronchitis | .... | .... | .... | .... | .... | .... | 16 |
| Ante-natal causes, including congenital syphilis, marasmus, malnutrition and atrophy | .... | .... | .... | .... | .... | .... | 20 |
| Tuberculosis—miliary and spinal | .... | .... | .... | .... | .... | .... | 2 |
| Enteric fever | .... | .... | .... | .... | .... | .... | 2 |
| Diphtheria | .... | .... | .... | .... | .... | .... | 2 |
| Malaria | .... | .... | .... | .... | .... | .... | 10 |
| Nine other diseases, including convulsions, meningitis, injuries, influenza, mastoiditis, rickets, septicaemia and worms.... | .... | .... | .... | .... | .... | .... | 17 |
| | | | | | | | 100 |

NOTIFIABLE INFECTIOUS DISEASES.

The diseases notifiable under the Public Health Ordinance, Cap. 98 include diphtheria, membranous croup, typhoid or enteric fever, cholera, plague, yellow fever, small-pox, pulmonary tuberculosis, tuberculosis (other forms), pneumonia and broncho-pneumonia, chicken-pox and ophthalmia neonatorum. None of the quarantinable diseases, viz.: plague, cholera, yellow fever or small-pox either occurred or was imported in the Colony during the year.

The total number of cases of infectious disease notified was 355, as against 390 in 1927, being a decline of 35 notifications on the previous year. The cases notified from month to month are shown in Table X.

Deaths from notifiable infectious diseases, of which a monthly record is given in Table XI, numbered 228, being 64·22 per cent. of the notifications, and 15·44 per cent. of the total deaths from all causes.

Notifications, deaths and death-rates from infectious diseases for this and the preceding year are compared below in tabular form :—

Comparison of Notifications, Deaths and Death-rates for the years 1927 and 1928.

| Diseases. | 1927. | | | 1928. | | |
|---------------------------------|----------------|---------|---------------------------------|----------------|---------|----------------------------------|
| | Notifications. | Deaths. | Death-rate per 1,000 Population | Notifications. | Deaths. | Death-rate per 1,000 Population. |
| Pulmonary Tuberculosis | 160 | 138 | 2.10 | 152 | 141 | 2.08 |
| Enteric Fever | 95 | 17 | 0.26 | 54 | 14 | 0.21 |
| Pneumonia and Broncho-pneumonia | 65 | 41 | 0.63 | 60 | 51 | 0.77 |
| Ophthalmia Neonatorum .. | 27 | .. | .. | 31 | .. | .. |
| Tuberculosis (Other forms) .. | 10 | 9 | 0.14 | 16 | 19 | 0.29 |
| Small pox | .. | .. | .. | .. | .. | .. |
| Chicken pox | 17 | .. | .. | 23 | .. | .. |
| Diphtheria | 16 | 2 | 0.03 | 19 | 3 | 0.05 |
| Membranous Croup | .. | .. | .. | .. | .. | .. |
| Plague | .. | .. | .. | .. | .. | .. |
| Cholera | .. | .. | .. | .. | .. | .. |
| Yellow Fever | .. | .. | .. | .. | .. | .. |
| Total | 390 | 207 | .. | 355 | 228 | .. |

Table XII shows the distribution of cases and deaths from notifiable infectious diseases in the various divisions of the District of Port-of-Spain.

Pulmonary Tuberculosis.—152 cases were notified and 141 deaths registered from this cause, many of the latter being of cases notified in the previous year. Of these deaths 77, or 54·6 per cent., took place in hospital after varying periods of isolation, and 64 died at home (Table XIV).

Below are tabulated the deaths and death-rates from tuberculosis in the City for the decennial periods 1909-1918 and 1919-1928, and in **Chart A** the notifications and deaths for the quinquennia 1918-1922 and 1923-1927 are contrasted in graphic form with the corresponding statistics for 1928. Complete notification figures were not available before 1918.

Deaths and Death-rates from Pulmonary Tuberculosis in Port-of-Spain for the decennial periods 1909-1918 and 1919-1928.

| Decennium—1909-1918. | | | | Total Deaths. | Death-rate per 1,000 Population | Decennium—1919-1928. | | | | Total Deaths. | Death-rate per 1,000 Population. |
|----------------------|----|----|----|---------------|---------------------------------|----------------------|----|----|----|---------------|----------------------------------|
| 1909-10 | .. | .. | .. | 289 | 4.83 | 1919 | .. | .. | .. | 194 | 2.82 |
| 1910-11 | .. | .. | .. | 329 | 5.50 | 1920 | .. | .. | .. | 185 | 2.65 |
| 1911-12 | .. | .. | .. | 271 | 4.53 | 1921 | .. | .. | .. | 155 | 2.51 |
| 1912-13 | .. | .. | .. | 286 | 4.65 | 1922 | .. | .. | .. | 149 | 2.38 |
| 1913-14 | .. | .. | .. | 218 | 3.48 | 1923 | .. | .. | .. | 192 | 3.04 |
| 1914-15 | .. | .. | .. | 205 | 3.22 | 1924 | .. | .. | .. | 162 | 2.53 |
| 1915—9 months | .. | .. | .. | 155 | 3.19 | 1925 | .. | .. | .. | 148 | 2.29 |
| 1916 | .. | .. | .. | 228 | 3.45 | 1926 | .. | .. | .. | 183 | 2.81 |
| 1917 | .. | .. | .. | 206 | 3.06 | 1927 | .. | .. | .. | 138 | 2.10 |
| 1918 | .. | .. | .. | 247 | 3.63 | 1928 | .. | .. | .. | 141 | 2.08 |

The average annual deaths and death-rates from pulmonary tuberculosis for the decennium 1919-1928 were, respectively, 165 and 2.52 per 1,000 population, compared with 249 and 3.95, respectively, for the preceding decennial period.

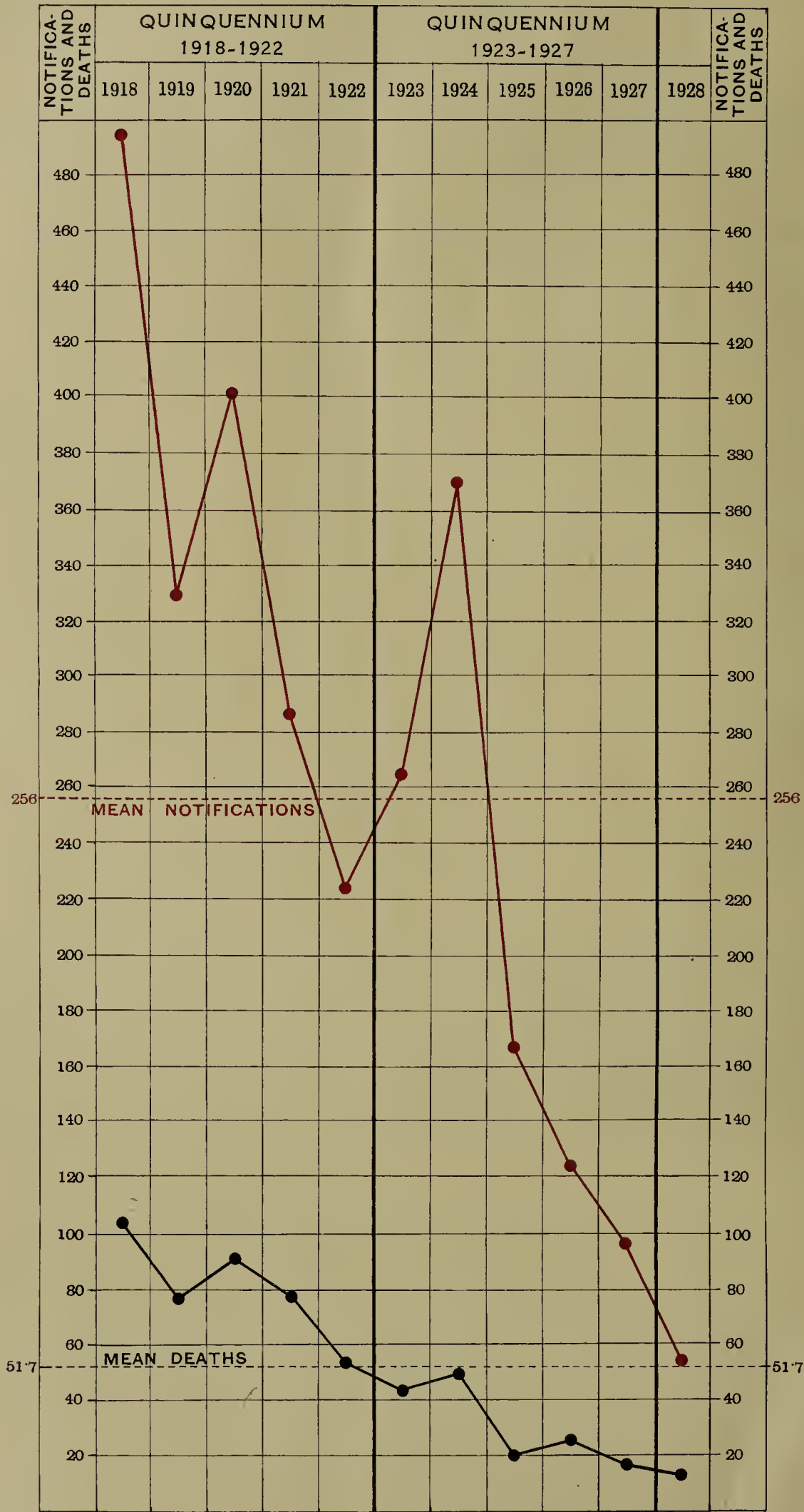
The measures adopted for the prevention of this disease are controlled by three co-operating bodies, the Government, the local authority and the Trinidad Association for the Prevention and Treatment of Tuberculosis. The Government provides hospital accommodation for the isolation and treatment of dangerous open cases of the disease, and free bacteriological reports on all specimens of suspected sputum submitted for examination. The Local Authority enforces notification of the disease, and looks after the disinfection of infected premises and the removal to hospital of patients who are without proper lodging or accommodation, or are so lodged that proper precautions cannot be taken to prevent the spread of the disease.

The Anti-tuberculosis Association, which is supported by a Government grant-in-aid and voluntary contributions from the public, disseminates information respecting the infectious nature of tuberculosis, its mode of spread and the methods of prevention. The Association also maintains a Dispensary in Port-of-Spain where early cases of tuberculosis are diagnosed and treated. Advanced cases are sent to the tuberculosis ward at the Colonial Hospital of which the Medical Officer of Health, who is also Tuberculosis Officer, is the physician in charge. The Association further employs trained nurse visitors for domiciliary instruction and the encouragement of contacts and other suspects to visit the Dispensary for examination and treatment, if necessary. The nurse visitors actively co-operate with the Public Health Department by giving information of unventilated houses or other insanitary conditions noticed in the course of their domiciliary visits, while the sanitary inspectors furnish the nurses with the addresses of tubercular suspects observed during their rounds.

CHART B.

ENTERIC FEVER IN PORT-OF-SPAIN

Notifications and Deaths, 1918-1928



Notifications in Red.
Deaths in Black.

Fluctuations in the prevalence of Enteric Fever between 1918 and (the end of February) 1924, before Chlorination of the water supply, contrasted with the steep, unbroken decline of the disease after that period.

Having regard to the mode of spread of tuberculosis, these measures cannot fail to exercise a salutary check on the rate of infection, and the results are visible in the downward course pursued by the disease for many years past ; but progress in this direction is manifestly retarded by the overcrowding which is rampant in Port-of-Spain as a result of the insanitary barrack system, and the shortage of housing accommodation for the poorer classes: So serious is this shortage that not a single barrack room, however insanitary, remains untenanted, and any dirty, unventilated box or other unwholesome structure, which can provide a certain amount of shelter from sun, rain or dew, readily finds a tenant and often at a rental that is fairly astounding.

This state of affairs is a grave menace to the public health, and is specially favourable to the transmission of tuberculosis from sick to sound. Mainly owing to the anti-tuberculosis propaganda, which has actively been carried on in the Colony for the past twenty-four years, there is abundant evidence that the population as a whole has grasped the idea of the infectious nature of tuberculosis, and is cognisant of the manner in which it is spread ; but the overcrowding which takes place in the barracks of Port-of-Spain renders it difficult for healthy persons—children especially—to escape direct infection at close quarters from any housemate who may be suffering from the disease.

Until some definite and effective plan is devised, and carried out, to relieve this dangerous overcrowding—which is perceptibly growing worse—among the poor of Port-of-Spain, there is little hope of making any further substantial impression on the death-rate from pulmonary tuberculosis ; and as this disease ranked second among the causes of death in the City, with the high death-rate of 2.08 per 1,000 population, the writer strongly recommends that urgent consideration be given by the local authority to the overcrowding which has been referred to with a view to the adoption of some practical scheme whereby this grave nuisance may be abated as speedily as possible.

Enteric Fever is still on the run. During the year 54 cases were notified and 14 deaths registered from this disease, with a death-rate of 0.21 per 1,000 population, compared with 94 notifications, 17 deaths and a death-rate of 0.26 in the preceding year. The 54 cases notified were distributed in the proportion of 20, or 37 per cent., in the sewered districts, and 34, or 63 per cent., in the unsewered districts, as follows :—

| District. | Cases notified. | Percentage of total number. | Population. | Cases notified per 1,000 Population. |
|--------------------------------|-----------------|-----------------------------|-------------|--------------------------------------|
| Central part of City (sewered) | 19 | 35.2 | 27,030 | 0.70 |
| St. Clair (sewered) | 1 | 1.8 | 1,246 | 0.80 |
| East Dry River (unsewered) | 16 | 29.6 | 16,061 | 0.99 |
| Belmont (unsewered) | 13 | 24.1 | 12,696 | 1.02 |
| Woodbrook (unsewered) | 5 | 9.3 | 9,350 | 0.53 |

Below are the notifications, deaths and death-rates from the disease in Port-of-Spain for the years 1918 to 1928.

ENTERIC FEVER.

Notifications, Deaths and Death-rates for the years 1918-1928.

| Year. | Notifications. | Deaths. | Death-rate per 1,000 Population. |
|-------|----------------|---------|----------------------------------|
| 1918 | 495 | 104 | 1.52 |
| 1919 | 330 | 76 | 1.10 |
| 1920 | 401 | 90 | 1.29 |
| 1921 | 287 | 77 | 1.25 |
| 1922 | 226 | 53 | 0.84 |
| 1923 | 265 | 43 | 0.68 |
| 1924 | 370 | 49 | 0.76 |
| 1925 | 168 | 20 | 0.31 |
| 1926 | 125 | 26 | 0.39 |
| 1927 | 94 | 17 | 0.26 |
| 1928 | 54 | 14 | 0.21 |

Of the cases notified during the year under review 41, or 75·9 per cent., were treated in the enteric wards of the Colonial Hospital, and of the 14 deaths that resulted 11, or 78·5 per cent., took place at that institution.

Chart B shows the marked fluctuations in the incidence of the disease between 1918 and the early months of 1924, and its uninterrupted decline from that period onwards. In this connection it is worthy of note that the purification of the water supply with chlorine was begun in the last week of February, 1924, with chlorinated lime, and subsequently continued with liquid chlorine from September, 1925. The apparatuses used for the latter purpose are Paterson Chloronomes of which six units have been installed in connection with the City waterworks.

Chart C shows the rise in the prevalence of enteric fever in January and February, 1924, before chlorination of the City water supply, and the decline of the disease after the adoption of that process from the last week of February. The average curve of the disease for the pre-chlorination period 1918-1923 is also contrasted with that of the post-chlorination period 1925-1928.

Chart D shows the corresponding mortality curves for the different periods represented in Chart C.

Besides the chlorination of the water supply all the other measures of control previously adopted, including the broadcasting of anti-typhoid leaflets, isolation of cases at the Colonial Hospital, disinfection of infected premises and fomites, protective inoculation of contacts, regular oiling of privy cesspits with a mixture of crude and distillate oil, and strict enforcement of the bye-laws with respect to the breeding of flies and the provision of covered dustbins, have been continued without cessation.

Small-pox.—No case of this disease occurred in the City during the year. The last previous outbreak, which was the result of an importation from the neighbouring Venezuelan coast, took place in 1926, and 16 cases, all of alastrim type, were reported between the months of January and June, after which the disease yielded without further recrudescence to the measures of control adopted during the outbreak.

Chicken Pox.—As shown in Table X there were 23 notifications of this disease, viz. : 11 between January and June, and 12 between July and December. The disease was of a mild type and, as usual, no death resulted. In the previous year the number notified was 17, also without mortality.

Pneumonia.—The notifications of this disease, which include broncho-pneumonia, totalled 60 (Table X), and the deaths registered therefrom 51, yielding a death-rate of 0·77 per 1,000 population, compared with 65 notifications, 41 deaths and a death-rate of 0·63 in the previous year. 23, or 45·1, of the deaths occurred in hospital, 28 died at home.

It should be noted that the proportion of deaths to notifications under this head does not represent the actual case mortality, since many deaths of cases not previously notified were classified to this cause.

The averages of the notifications, deaths, and death-rates per 1,000 population from pneumonia for the previous five years 1923-1927, were, respectively, 77, 63 and 0·98. Table XI shows the total monthly deaths and XIII the monthly deaths in hospital under this head. A comparative statement of deaths in hospital and deaths at home from pneumonia is given in Table XIII.

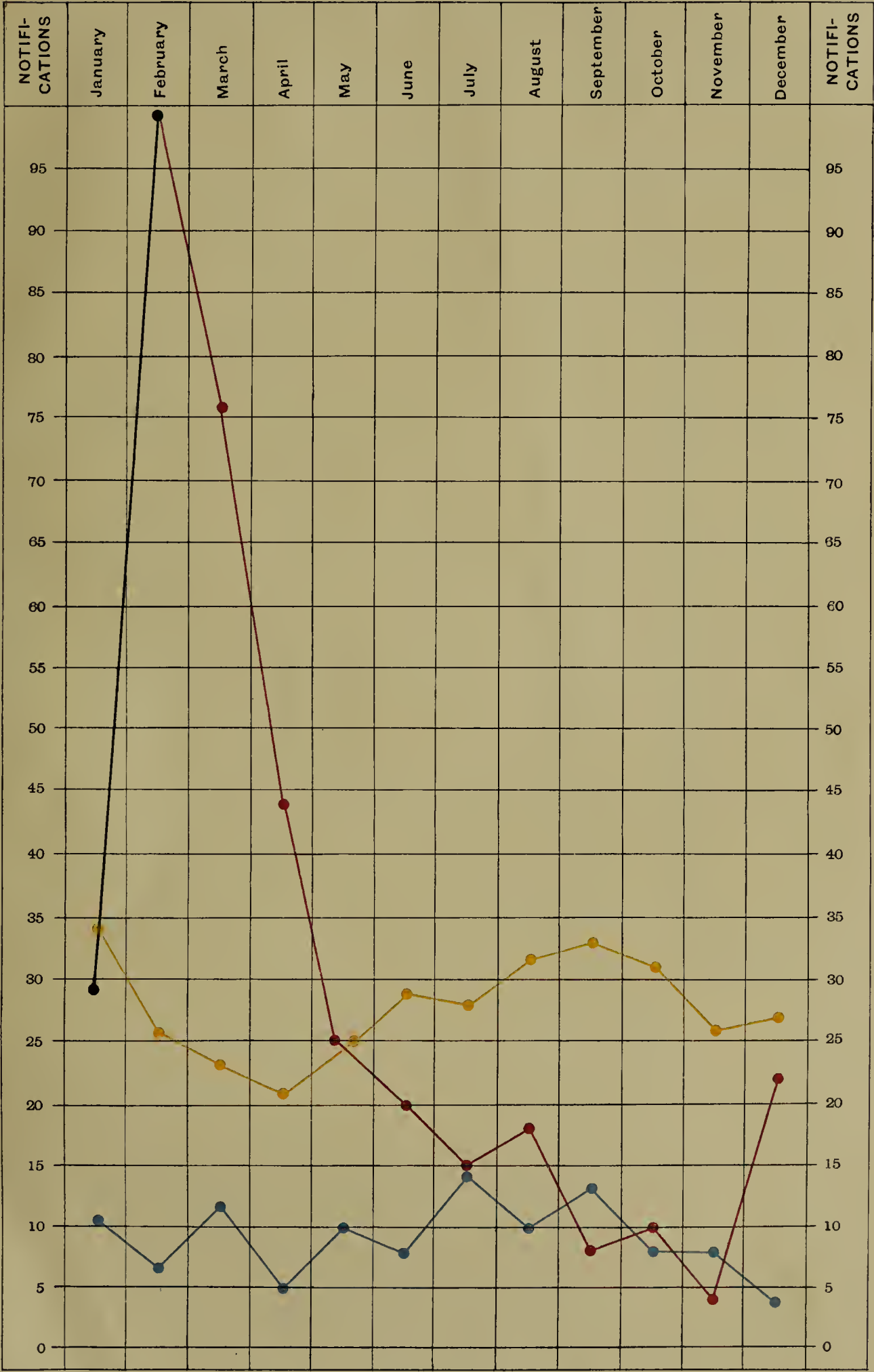
Diphtheria.—This disease, of which there were 19 notifications with 3 deaths, was slightly more prevalent than in the preceding year when 16 cases were notified with 2 deaths. The death-rate was 0·05 per 1,000 population, compared with 0·03 for the previous year, which was the same figure as the average rate for the five preceding years, 1923-1927.

Notifications and deaths from this disease, month by month, are shown in Tables X and XI, respectively. Of the three deaths this year, one took place in hospital and the other two at the patients' homes.

CHART C.

ENTERIC FEVER

Notifications in Port-of-Spain, 1918-1928

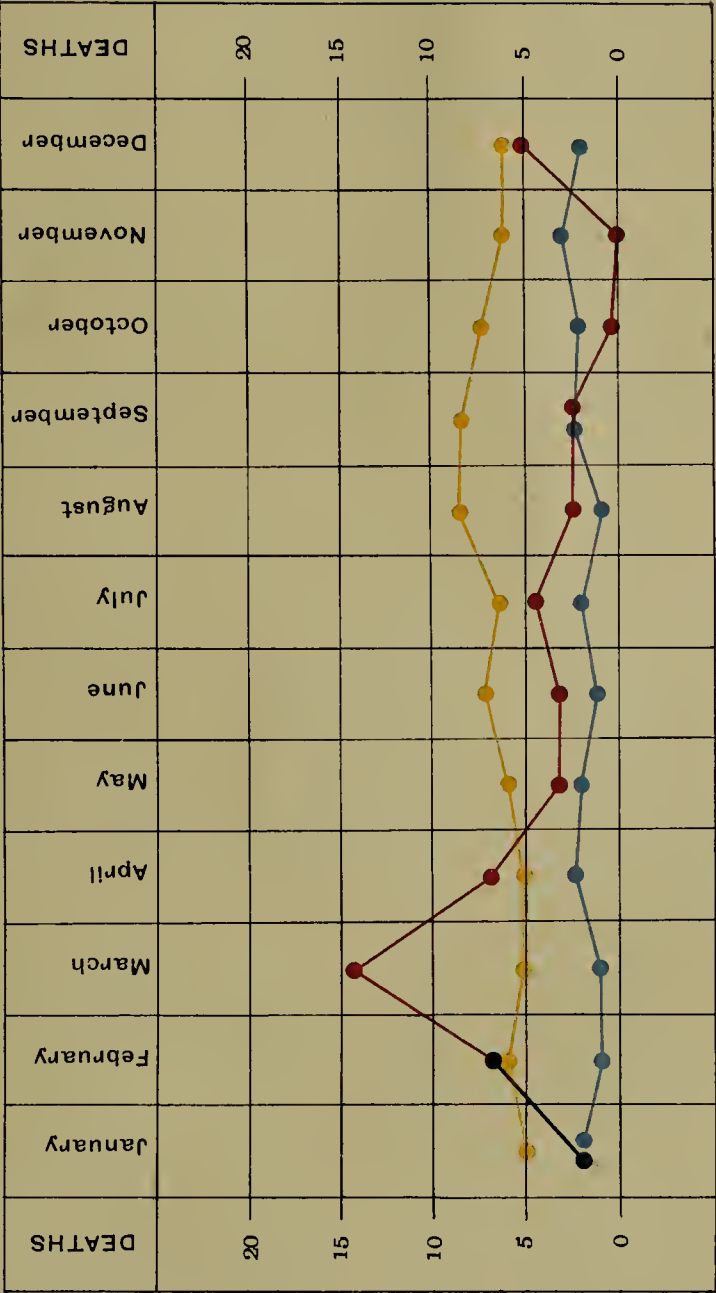


Black — Notifications in 1924—Before Chlorination of Water Supply.
Red — Do do After Do do
Yellow — Average monthly notifications, 1918-1923 Before Chlorination
Blue — Do do do 1925-1928 — After Do

CHART D.

ENTERIC FEVER

Deaths in Port-of-Spain, 1918-1928



Black — Deaths in 1924—Before Chlorination of Water Supply.
Red — Do — After Do
Yellow — Average monthly deaths, 1918-1923 — Before Chlorination.
Blue — Do — 1925-1928 — After Do

Ophthalmia Neonatorum.—31 cases of this pitiful infection were notified (Table X), as against 27 and 28, respectively, in the two previous years. This is an important disease which can be prevented by proper ante-natal care of expectant mothers, and skilled medical and nursing attention at the time of parturition. The work which is being done by the Child Welfare League in these directions cannot be too widely known among women of child-bearing age.

NON-NOTIFIABLE INFECTIOUS DISEASES.

Of the non-notifiable infectious diseases malaria, syphilis, dysentery and ankylostomiasis contributed the highest numbers of deaths. Influenza and whooping cough were less prominent on the mortality list. The deaths under this head totalled 135 and are shown month by month in Table XV.

There was one death from Puerperal Fever.

Malaria.—57 deaths were attributed to this disease, with a death-rate of 0·86 per 1,000 population, compared with 46 deaths and a death-rate of 0·70 in the preceding year. Table I shows the deaths from the disease and the death-rates calculated therefrom during the quinquennium 1924-1928. Of the deaths certified to malaria this year, 17 or 29·8 per cent., took place at the Colonial Hospital (Table XVI), where facilities for accurate diagnosis during life or *post mortem* are readily available, and the majority—slightly over 70 per cent.—died at home (Table XVII).

The deaths certified to malaria are not a satisfactory index of the prevalence of this disease in the City. Many such certificates are given in respect of bodies “viewed” after death by medical practitioners who did not attend the cases. No great reliance can be placed on this method of diagnosis, for even during life cases of enteric fever, pneumonia, tuberculosis—especially miliary tuberculosis, and other acute diseases are not uncommonly mistaken for malaria. Moreover, death from malaria in the City, even in well authenticated cases, does not necessarily connote infection within the City, either recent or otherwise. It may be the result of recent infection in a malarious out-district or from a recrudescence of remote infection in such a place, although in the latter case the deceased may not have left the City for many months or even years.

While, therefore, it is possible, and even probable, that infected Anophelinae, bred in the Laventille swamps beyond the eastern boundary of the City, and in the out-district of Mucurapo west of the Maraval River, may under favourable conditions of wind and weather wing their way to the City, the fact that on no occasion during the year were adult anopheles or their breeding places found, after careful survey at or near any premises from which a death from malaria was certified, is a strong indication that this variety of mosquito—which is the carrier of malaria—if present at all, does not prevail in the City in sufficient numbers to account for the high mortality attributed to the disease.

Unfortunately malaria has not yet been proclaimed an infectious disease within the meaning of the Public Health Ordinance, and therefore its prevalence cannot be ascertained with the same degree of precision as is possible in the case of a notifiable disease; nevertheless information obtained from medical practitioners, sanitary inspectors, the Health Office and other sources, in the regular course of inquiry by the writer respecting circumstances that affect the public health, does not warrant any fear that malaria is as widespread in the City as the number of deaths certified to that cause might lead persons not cognisant of the facts to suppose.

The truth is that, for a tropical City, Port-of-Spain, with its progressive sanitary development, is singularly free from anopheles mosquitoes or their breeding places and, consequently, from any serious risk of malarial infection.

Syphilis.—Deaths classified to this cause numbered 31 (Table XV), with a death-rate of 0·47 per 1,000 population, compared with 48 deaths and a death-rate of 0·73 in the previous year.

Of the 31 deaths under this head 8 were due to congenital syphilis, viz.: seven among infants under one year, and one at the age period 1-5.

Table I shows that since 1925 there has been a steady decline in deaths and the death-rates ascribed to syphilis, a circumstance which must in a large measure be attributed to the popular eagerness for blood tests and the willingness of Wassermann reactors to take advantage of the skilled treatment available, without charge, at the Venereal Diseases Clinics conducted at the out-patient department of the Colonial Hospital.

The Child Welfare League also exercises a beneficent influence on the death-rate from syphilis through the medical attention given at the Mothers' and Infants' Clinic to congenital cases, and the encouragement of infected parents to submit themselves to specific treatment.

10, or 32·2 per cent., of the deaths certified to syphilis took place at the Colonial Hospital (Table XVI).

As indicated elsewhere in this report, these deaths do not exhaust the total mortality attributable to syphilis. Many such are included in deaths certified to congenital debility, prematurity, malformation of the heart, marasmus and other common ante-natal causes, also under the head of diseases of the nervous system and of the heart and blood vessels. Too much stress cannot be laid on the importance of syphilis as a killing and maiming disease, its wide ramifications in the classification of causes of death, and the sinister influence which it exercises on the death-rate, especially in infancy and middle life; nor can the danger of neglecting continued, specific treatment of the disease, until a proper cure is effected, be over-emphasised.

Dysentery.—The deaths ascribed to this disease or, more properly, “the dysenteries”—since there are various forms—numbered 29 (Table XV)—an increase of 2 over the preceding year—with a death-rate of 0·44 per mille. 5, or 20·8 per cent., of the deaths classed to this cause died in hospital: the others—nearly 80 per cent. of the whole, died at home (Table XVII).

Most of the death certificates refer vaguely to ‘dysentery’ without any qualification, hence it is not possible to give definite statistics of the mortality from the different forms, the two principal of which are amoebic dysentery and bacillary dysentery: various other diarrhoeal diseases of an inflammatory type are also classed as dysentery.

Amoebic dysentery is stated on bacteriological evidence to be the form most usually met with in Port-of-Spain. It is the true tropical dysentery and differs from the bacillary form in that the onset, though frequently severe, is more usually mild, and failing proper treatment, the disease tends to become chronic. Liver abscess is also apt to be an after effect.

Amoebic dysentery is caused by a parasite, *entamoeba histolyca*, found principally in the intestinal discharges of those suffering from it. The portal of entry of the parasite is the mouth, and the disease is mostly spread directly, through close contact with acute or chronic cases. Flies also play an important part in its transmission, but unlike the bacillary form it does not occur in wide-spread, explosive outbreaks through infected water, milk or other food. Overcrowding is specially favourable to its spread. The prophylaxis of the disease consists mostly in the prevention of overcrowding, the isolation of acute cases, and the control and treatment of chronic carriers.

Bacillary dysentery is caused by a specific organism, the *bacillus dysenteriae*, which occurs in the bowel discharges of persons suffering from the disease and, in some respects, resembles the germ of enteric fever. Although mild cases do occur, the disease is generally ushered in by marked febrile disturbances and runs an acute course, often of great severity. It occurs more commonly in the hottest season of the year and is frequently fatal, especially to children. It tends to spread in epidemic form through water, milk and other foods, flies and direct contact, just like enteric fever, and the general prophylaxis is the same as for the latter. This disease, unlike the amoebic form, does not become chronic or cause abscess of the liver. Patients either die from it or recover, and in cases of recovery the bacilli soon disappear from the stools. During the course of the disease, however, all sufferers are dangerous carriers, and overcrowding makes them more so.

The writer hopes that enough has been said in this brief reference to the nature and prophylaxis of dysentery to show that its efficient control requires that it should be made a notifiable disease. At the present time only the death returns reach the local authority.

Should the proclamation of malaria and dysentery as notifiable infectious diseases be impracticable for the whole Colony, there seems to be no reason why the Public Health Ordinance should not be amended to restrict its application to urban districts only, where health and sanitary problems may in many respects differ from those of rural districts. Looking ahead the writer sees the time approaching when a special Public Health Ordinance for the Port-of-Spain district, at any rate, will have to be enacted.

Ankylostomiasis.—11 deaths were classed under this head (Table XV) with a death-rate of 0·17 per 1,000 population, compared with eight deaths and a death-rate of 0·12. The requirements of the Public Health Ordinance relating to the provision of proper privy accommodation in all occupied premises are strictly enforced, hence the conditions for the spread of ankylostomiasis in the City are not favourable. The deaths from this disease occur mostly among former labourers in agricultural districts, and this year 6, or 54·5 per cent. (Table XVII) of the number registered took place at the Colonial Hospital.

Influenza.—4 deaths were attributed to this cause (Table XV) with the low death-rate of 0·06 per 1,000 population, as against 6 deaths and a death-rate of 0·09 in the previous year. Two of the four deaths occurred between May and June, and the remainder between August and October (Table XV). The disease did not prevail to any wide extent and was generally mild in type. No deaths from influenza were registered in 1924, two in 1925, and none in 1926 (Table I).

OTHER PRINCIPAL CAUSES OF DEATH.

Diseases of the Heart and Blood Vessels.—This group of diseases was responsible for more deaths than any other, the number registered being 214, with a death-rate of 3·22 per 1,000 population, compared with 192 deaths and a death-rate of 2·94 in the previous year. The mortality classified under this head included 52 deaths from arterio-sclerosis, 14 from aneurism of the aorta and three from angina pectoris. Attention has already been called in previous reports to the influence of syphilis in the production of these and other organic affections of the heart and blood vessels which frequently terminate fatally in early middle life. The steady rise in the mortality registered under this group during the quinquennium 1923-1927 and this year is shown in Table I.

Bright's Disease and Nephritis.—120 deaths were allocated to this group including uraemia, yielding a death-rate of 1·81 per 1,000 population, as against 99 deaths and a death-rate of 1·51 in the preceding year. Deaths from these diseases rank next in importance to pulmonary tuberculosis which takes second place to diseases of the heart and blood vessels. Deaths and death-rates from Bright's disease and nephritis for the quinquennium 1923-27 are compared with the corresponding statistics for the present year.

Diarrhoea and Enteritis accounted for 63 deaths, with a death-rate of 0·95 per 1,000 population, being an excess of 15 deaths over the record for the preceding year, and a rise of 0·22 in the corresponding death-rate. The number of deaths in each month of the year is shown in Table XVIII. 44, or 69·85 per cent., of the deaths in this group occurred among children under one year, and 19, or 30·15 per cent., among children of the age period 1-5. A comparison of the mortality under this group for the years 1923-1927 is shown in Table I.

Bronchitis.—Though fourth in order of importance on the mortality list, deaths from this disease declined considerably, the number registered being 71, with a death-rate of 1·06 per 1,000 population, compared with 109 deaths and a death-rate of 1·66 in the previous year. The figures for each year of the quinquennium 1923-1927 are compared in Table I with those of the present year.

Cancer.—There was a slight decline on the preceding year in the mortality allocated to this important disease. The deaths registered totalled 48, with a death-rate of 0·72 per 1,000, as against 51 deaths and a death-rate of 0·78 in 1927. Table I shows a comparison of the deaths and death-rates under this group for the quinquennium 1923-1927 with the figures for 1928.

Notwithstanding the encouraging results being obtained by ray therapy in certain cases of cancer, early surgical interference still holds the field as the most reliable curative measure, and the writer can do no better than repeat the warning given in a previous report that, for the present, at any rate, the surest hope lies in early diagnosis and, therefore, it is imperative that the best possible medical advice should be taken without delay in every case in which there may be the least ground for suspecting this disease.

The vital statistics submitted in this part of the report are extended in Appendix A, Tables I-XVIII.

II.—SANITARY CONDITIONS.

Rainfall.—This year was drier than the last. The records kindly supplied by the Director of Agriculture showed that the average of the rainfall of the City gauged at three stations, viz.: the Royal Botanic Gardens, Constabulary Headquarters and the Colonial Hospital was 59·56 inches, or 15·10 inches less than in the previous year, when the rainfall was 74·66 inches.

The precipitation was fairly even for the March and June quarters, being 6·41 and 6·36 inches, respectively. The September quarter, with a rainfall of 24·32 inches, was nearly four times as wet as either of the first two quarters, and the December quarter was not far behind with 22·44 inches. The driest months were May, April and February with 0·40, 0·69 and 1·09 inches of rainfall, respectively, and the wettest were August with 10·69, October with 8·62 and November with 7·78 inches, respectively.

In Tables XIX and XX are respectively shown the records of the City rainfall from month to month for this and the previous year, as gauged at the three stations.

Milk.—Forty-two dairyman's licenses were issued during the year, five of which were in respect of milk shops. The number of cowsheds licensed was 33. The bulk of the milk consumed in the City is supplied from dairies situated in out-districts, of which San Juan and Santa Cruz, St. James and Maraval are the principal. From the tabulated statement which follows, it will be seen that of 282 milk vendor's licenses, 42 or, 14·89 per cent., were issued in respect of dairies in Port-of-Spain. Further, of 316 badges supplied to actual vendors or hawkers of milk, 50, or 15·82 per cent., had reference to City dairies and 266, or 84·18 per cent., to dairies situated outside the City.

Milk Vendor's Licenses and Badges.

| Situation of Dairy, &c. | | | | | | | | Milk Vendor's Licenses issued. | Badges supplied. |
|-------------------------|----|----|----|----|----|----|----|--------------------------------------|---------------------|
| Port-of-Spain | .. | .. | .. | .. | .. | .. | .. | 42 | 50 |
| San Juan and Santa Cruz | .. | .. | .. | .. | .. | .. | .. | 169 | 186 |
| St. James | .. | .. | .. | .. | .. | .. | .. | 35 | 37 |
| Maraval | .. | .. | .. | .. | .. | .. | .. | 28 | 31 |
| St. Ann's | .. | .. | .. | .. | .. | .. | .. | 2 | 4 |
| St. Joseph | .. | .. | .. | .. | .. | .. | .. | 2 | 2 |
| Long Circular Road | .. | .. | .. | .. | .. | .. | .. | 1 | 3 |
| Laventille | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Four Roads | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Diego Martin | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Total | .. | .. | .. | .. | .. | .. | .. | 282 | 316 |

It is gratifying to record that a gradual improvement is taking place in the methods of producing milk in and out of the City. This salutary change is being achieved by the education of the small producers, and the more up-to-date conditions under which the bigger dairymen produce and market their milk. During

Health Week the Department of Agriculture exhibited a model farm and dairy under the management of the Government Veterinary Surgeon in which daily demonstrations were given of the care, feeding and cleansing of milch cows, the sanitary precautions necessary to ensure the production of clean milk, including the sterilisation of bottles and other utensils, mechanical bottling and capping, and the cooling of the finished product before delivery. These lessons were supplemented later by further demonstrations at the Government Farm, whither dairymen from the City, as well as from the out-districts, were conveyed under arrangements made by the Central Board of Health for the purpose of being instructed.

In the writer's Annual Report for 1926 the following remarks may be recalled :—

The question of municipal pasteurisation of the milk is sometimes raised, but altogether apart from administrative difficulties, the writer, after careful consideration, is of opinion that greater benefit would accrue to the community in the long run by educating dairymen in the methods of clean milk production. At the same time it does appear that there is room in Port-of-Spain for a Dairy Company with sufficient capital to keep its own herds under such hygienic conditions as would ensure the production of clean wholesome milk, and take over by purchase or other arrangement the milk produced by such dairymen for pasteurisation and distribution in sealed bottles.

The views then expressed as to the value of educative measures received practical support in the demonstrations given at the Prince's Building during Health Week by the Department of Agriculture and, subsequently, at the Government Farm. It is also noteworthy that the hint thrown out in respect to the possibilities of a highly capitalised Dairy Company was not lost, for since then such a company has actually been established with a large herd of pedigree cows, and equipped with all modern appliances for the production and marketing of clean milk. Other clean, well-stocked and reliable dairies are also in evidence in the outskirts of the City.

Further, the question of tuberculosis in dairy cattle was taken up by the Government and a Committee, of which the writer was a member, appointed to inquire and advise on the measures to be adopted for the control and eradication of tuberculosis in cattle. Application of the Tuberculin test by the Government Veterinary Surgeon in certain dairies confirmed the results of previous experiments of a similar kind, and proved conclusively to the Committee that tuberculosis did to a certain extent prevail among local dairy cows. Consequent on the recommendations of the Committee the Government made the following regulations to come into force on the 1st January, 1929 :—

TUBERCULOSIS IN CATTLE.

Regulations made under the Diseases of Animals Ordinance, Cap. 256, as amended by Ordinance No. 24 of 1928.

1. These Regulations may be cited as the Tuberculosis in Cattle Regulations, 1928.
2. The Government Veterinary Surgeon or any other Veterinary Surgeon authorised by him in writing may at any time enter any premises, pen, vehicle or boat to secure the examination of cattle for tuberculosis and the testing with tuberculin.
3. The Government Veterinary Surgeon or any other Veterinary Surgeon authorised by him in writing may examine cattle for tuberculosis and apply the Tuberculin test to cattle whether such cattle show or do not show signs from which the disease may be suspected.
4. The owner and occupier of any premises, pen, vehicle or boat and any person in his employment and the owner of, and any person in control of cattle shall render such reasonable assistance to the Government Veterinary Surgeon or any other Veterinary Surgeon appointed by him in writing, as may be required for the purposes of these Regulations. Any such person refusing such assistance shall be deemed guilty of an offence.
5. All cattle imported into the Colony other than those intended for immediate slaughter shall be subjected to the Tuberculin test unless accompanied by a certificate approved by the Examiner of Animals stating that the animal has come from an accredited herd, or has been tested by the Tuberculin test without reaction immediately before shipment.
6. Any such imported cattle which react to the Tuberculin test shall be detained at the Detention Station and there slaughtered.
7. All expenses incurred under Regulations 5 and 6 shall be paid by the Consignee or Importer of the cattle.
8. Every person who does anything in contravention of these Regulations is guilty of an offence and liable to a penalty not exceeding twenty pounds.
9. These Regulations shall come into force on the 1st January, 1929.

Made by the Governor in Executive Council this 13th day of December, 1928.

J. M. FARFAN,
Acting Clerk of the Council.

The writer advises that these regulations should immediately be followed up by an amendment of the Sale of Milk bye-laws requiring that no license shall be granted in respect of any place in which cows are kept for the sale of milk, unless the application for such license is accompanied by a certificate from the Government Veterinary Surgeon, or a Veterinary Surgeon authorised in that behalf by the local authority, stating that every animal kept in such place has, within a period of six months from the date of the application for such license, come from an accredited herd or been tested by the Tuberculin test without reaction. Other safeguards such as the regular inspection of dairies by the Inspector of Animals and Meat should also be provided.

As far back as March, 1913, four years before the coming into force of the Public Health Ordinance, the writer referred to this question in a paper on "Tuberculosis in Trinidad and Tobago" read at the First West Indian Intercolonial Tuberculosis Conference, and it is interesting to find that after many years the matter has reached a stage when the adoption of the suggestions then made may confidently be expected to recommend itself to the wisdom of the local authority. The following is the reference alluded to :—

BOVINE TUBERCULOSIS AND MILK.

The incidence of tuberculosis among local cattle is at present a somewhat veiled point, and no official information is available on the subject. Some time ago I circularized the Government Veterinary Surgeon, and the Town Board's Inspector of Animals and Meat on the subject. Their reply was to the effect that although the disease did not prevail to any considerable extent so far as they were aware, yet isolated cases of tubercular mammitis did come under their notice from time to time, and their impression was that this occurred more frequently than in former years. Accepting the theory that the non-pulmonary forms and, as is maintained by Nathan Raw, miliary tuberculosis, result from bovine infection, there is good reason to accept the observations and impressions of the local veterinary surgeons as being correct. The question of milk as a factor in the spread of tuberculosis has, so far, not been seriously touched in this colony. The regulations relating to the sale of milk have been drafted principally with the view of preventing fraudulent adulteration and organic contamination. There is no law to prevent the sale of raw milk drawn from tubercular cows, nor is there any system of inspection of dairies with a view to ascertaining the existence of tubercular disease. As regards the sale of meat in Port-of-Spain, the slaughter of animals intended for human consumption is prohibited outside of the Town Board's abattoir. Animals are inspected before and after slaughter by the Inspector of Animals and Meat who is a qualified veterinary surgeon, and tubercular carcasses are liable to be condemned. Among the measures which would be found useful in dealing with this phase of the tuberculosis question are the systematic inspection of dairies by a Veterinary Officer, and the introduction of tuberculin tests for the purpose of ascertaining the extent to which bovine tuberculosis prevails in the colony. There can be no doubt that the disease does exist to a certain limited extent, and with a tendency to increase; it would therefore be a great mistake to allow it to gain a firm footing among the colony's cattle before the matter is taken in hand.

Dairy licences should only be granted in respect of approved cows registered by the Health Department, and the presentation of a certificate of freedom from tuberculosis should be a condition precedent to the registration of any given cow. This addition to the existing regulations, coupled with the systematic veterinary inspection of dairies, would be a right step in the direction of preventing the spread of bovine tuberculosis, particularly among the children of the well-to-do classes who, of course, are among the largest individual consumers of milk in the colony.

There is little to be said on the question of the forms of tuberculosis locally attributable to infected milk beyond noting the correspondence between the low incidence of bovine tuberculosis and of the non-pulmonary forms of the disease among human beings. It is well also to bear in mind that both of these, if anything, are showing a tendency to increase.

Food.—During the year the steps which the local authority had for some considerable time past been taking to acquire statutory powers for the better control of the sale of food culminated in an amendment of the Public Health Ordinance by Clauses 5 and 6 of Ordinance No. 5 of 1928, as follows :—

Registration of shops where food is sold and of persons selling food.

5. Section 156 of the Principal Ordinance [which provides that a local authority may make bye-laws for certain matters mentioned in paragraphs 1-6 of that clause] is hereby amended by adding thereto the following paragraphs :—

- (7) The registration of retail shops and places where any article of food, whether solid or liquid, cooked or uncooked, intended for human consumption, is sold, exposed or offered for sale, or deposited for the purpose of sale or of preparation for sale.
- (8) The registration of all persons conveying or delivering from house to house, for purposes of sale, selling or offering for sale outside of any building or in any street, square or other public place, any foodstuffs, bread, cakes, pastry or other confectionery, cooked food, sweet drinks, ices or other solid or liquid refreshments; and the issue of badges denoting registration to such persons.
- (9) The cancellation of registration for breaches of bye-laws.
- (10) The providing that any person registered under any bye-laws made under this section shall carry and exhibit his badge of registration when lawfully required.
- (11) The charging of fees for the badges mentioned in this section.
- (12) The securing of the cleanliness of all persons registered under this section, or employed in retail shops registered under this section,

- (13) The securing of the cleanliness of all appliances, utensils, instruments, vessels and accessories used in connection with the businesses described in paragraph (8) hereof.
- (14) The prohibition of the sale within the district of any local authority of any article of food whether solid or liquid, cooked or uncooked, intended for human consumption, supplied from any retail shops or places outside the district of such local authority with respect to which any bye-laws made under this section are not observed.

6. The following shall be inserted as section 156A of the Principal Ordinance :—

156A. Every registration under section 156 of this Ordinance shall, unless cancelled, be and continue in force from the date of its issue until the 31st day of December next thereafter.

Passed in Council this thirteenth day of April, in the year of Our Lord one thousand nine hundred and twenty-eight.

E. F. AANENSEN,
Acting Clerk of the Council.

The necessary bye-laws made under this amendment of the Ordinance were also prepared and will be submitted later for the approval and sanction of the proper authorities. When passed these bye-laws will greatly strengthen the local authority's control of the sale of food for human consumption in the City.

Water.—The potable water supply of the City was constant during the year and of a high degree of purity. The daily average quantity delivered to the consumers per head of the population was 60 gallons—an ample allowance for all purposes. The water from each of the various sources of supply, viz. : Maraval, St. Ann's, Cascade, Cocorite and Diego Martin was treated with liquid chlorine in quantities ranging between 0.25 to 0.5 and, sometimes, 0.75 parts per million, as required by fluctuations in the organic content of the water dependent on the state of the weather. These fluctuations of course occur more frequently in the wet season, during which period the dosages of chlorine necessarily vary most. Permanganate in small proportions is used with satisfactory effect both as a detaster and taste preventer in connection with each unit of the chlorination plant. With one omission the usual daily analyses were made by the Government Bacteriologist of the mixed waters from the various sources, and the samples tested negative to *B. coli* in 50 c.c. on 96.16 per cent. of 365 days on which the water was examined.

The writer is glad of this further opportunity of thanking the Government Bacteriologist for his reports on the coli content of the water supply, the information so supplied by Dr. Pawan being indispensable for the proper control of the use of the Council's chlorination plant.

Drainage.—Consequent on the moderate rainfall, there was no serious flooding in the southern parts of the City as in the previous year, but the nuisance caused by the swamping of the low-lying portions of Woodbrook after heavy showers was still in evidence, and it is satisfactory to note that important sums have been placed on the estimates for the ensuing year for improving the drainage system of this attractive suburb. Similar provisions have been made with respect to the drainage of Belmont, and the everlasting question of the improvement of the bed of the Dry River has at length reached a stage at which the necessary works may be expected to begin at an early date.

That this event will be a matter for congratulation to all concerned cannot be gainsaid, but, at the same time, a note of warning is necessary in regard to a similar nuisance which is being created in the bed of the Maraval River along the western boundary of the City.

As was pointed out in a detailed report submitted by the writer on 17th February, 1917, shortly after taking up the duties of Medical Officer of Health of the City, the bed of the Dry River above Chaytor's Causeway is not insanitary, and any pools which may form there, after heavy showers followed by short spells of dry weather, quickly dry up, or are easily prevented from breeding mosquitoes by being filled up with sand or sprayed with oil. The real causes of what has been spoken of for years as "the Dry River Nuisance" are the slop waters which flow into what would otherwise be the dry bed of the river from the surface drains of Belmont and East Dry River, and the street drains, between Park Street and the sea, whose outlets are on the western bank of the river. But for these drains the condition of the bed of the river would be no worse below than above Chaytor's Causeway, and, from the purely sanitary point of view, the expensive works which are about to be undertaken would not have become necessary.

Now, in the development of St. Clair and Woodbrook some of the main public drains in these two districts have been so constructed as to have their outlets in the Maraval River, with the result that a similar condition to that which exists in the Dry River is in process of being created. The dirty water from these drains collects in pools on the bank of the river adjoining the Serpentine Road, below the St. James Bridge, behind the Transport Train and the stretch south of the Warren Street bridge. Those pools are generally offensive and unsightly, and, unless carefully supervised and regularly oiled or filled in with sand, breed vast swarms of night-feeding, filaria carrying mosquitoes to the annoyance of residents in the neighbourhood and the danger of the public health.

As the development of Woodbrook progresses, and houses are built nearer and nearer to the river, this nuisance will grow in importance, and it is opportune at this stage, when the mistake committed many years ago by allowing slop waters to flow directly into the bed of the Dry River is about to be rectified, to consider the future of the Maraval River in its course along the western side of the City, and the grave sanitary problem that is likely to arise unless measures are taken now to provide for the surface drainage in that quarter being discharged directly into the sea.

Sewerage and Sewage Disposal.—The septic tanks installed in most of the newer buildings at Woodbrook have not been an unqualified success, and a great improvement will have been effected when the Mucurapo Pumping Station is equipped with the new pump ordered before the close of the year for the purpose of augmenting the pumping capacity of the station and enabling the whole of Woodbrook to be connected with the City sewerage system.

The sewerage of Belmont and East Dry River depends on an increased water supply such as is expected to be at the disposal of the Corporation when the Colony water supply scheme, for which the preliminary operations are already well advanced, is ready. The benefits which will accrue to the public health, when the projected extensions of the sewerage system shall have been completed, are incalculable.

In the meantime much of the nuisance and injury to health arising from the storage of foecal matter on the premises in the unsewered portions of the City is mitigated by the regular treatment of all cesspits in these districts with crude and distillate oil.

Removal of Refuse.—There has been considerable improvement in the manner in which this offensive trade is carried out by the Corporation, but something further requires to be done to temper the unsightliness of the scavenging carts, and prevent the nuisance arising from them during their passage through the streets, especially in the direction of making more effective use of the tarpaulin covers with which they are equipped.

The writer again begs to submit for the consideration of the local authority the question of the removal of house refuse on Sunday mornings in the congested area between Park Street on the North, Marine Square on the South, the Dry River on the East and Henry Street on the West. This measure is badly needed owing to the large number of barracks in the area referred to and the restricted size of the dustbins which, according to the bye-laws relating to the removal of house refuse, must not exceed two and a half cubic feet in capacity. The refuse which accumulates between Saturday morning after the passage of the scavengers' cart and Monday morning is invariably far in excess of the capacity of the regulation dustbin. The result is that each week end a quantity of rubbish, for which there is not sufficient dustbin accommodation, is scattered in the yards, the gateways and even on the footways.

Constant complaints are made of the offensiveness of decomposing entrails, fish heads and other offal characteristic of the house refuse in this area, which includes the Eastern Market, and numerous cookshops and fried fish stalls. A round of the scavenger's cart on Sunday mornings would put an end to this long standing nuisance, and also the unsightliness arising from it.

Housing.—Overcrowding with its concomitant evils may be regarded as the most important circumstance which affected the health of the City during the year, owing to the woful insufficiency of housing accommodation for the poor. Attention has been called in previous reports to the dangers of overcrowding in barrack yards, which has now grown to such proportions as to call for the special consideration of the local authority.

Except in Woodbrook where the construction of better class cottages is constantly going on, little has been done for many years in the way of building houses for occupation by persons of the poorer class. Since the Public Health Ordinance came into force in 1917 only 74 new barrack yards have been constructed in conformity with the model plan and specification of the Central Board of Health for the establishment and construction of barrack yards in the City. The specification provides as follows:—

ESTABLISHMENT AND CONSTRUCTION OF BARRACK YARDS.

**Specification for the establishment and construction of a Barrack Yard in the City of Port-of-Spain.
Drawn up by the Central Board of Health under Section 143 (1) (a) of the Public Health Ordinance, 1915.**

1. All buildings intended to be occupied as barracks must conform in every respect with the Building Regulations contained in the Eighth Schedule of the Port-of-Spain Corporation Ordinance.

2. The buildings must be supported on a concrete base with spaces for ventilation provided with closely-barred gratings or mesh wire.

3. In cases where the floors of buildings are less than 2 feet 6 inches above ground level, the space enclosed by the base wall must be filled in with earth, stones or other approved material and a layer of concrete 4 inches thick at least must be laid immediately below the flooring boards leaving no intervening space.

4. Notwithstanding the provisions of Section 24 of the Building Regulations (Eighth Schedule of the Port-of-Spain Corporation Ordinance), every room in a barrack must be provided with apertures for ventilation of an aggregate area of not less than *one-tenth* part of the floor area of the room opening directly into the open air or into an open gallery or verandah, such ventilation to be in addition to such doors and windows as are provided for in No. 23 of the Building Regulations contained in Schedule VIII of the Port-of-Spain Corporation Ordinance.

5. Where jalousie doors and windows are used, the upper bales of jalousies must be standing jalousies or louveres. Where batten doors are used, there must be a bale of standing jalousies in every door not less than 3 square feet in area and standing jalousies on both sides of every door on the front of the building. All windows must be jalousie windows.

6. All partitions between rooms or sets of rooms rented to different tenants, must be carried up to the ceiling with no spaces or openings for ventilation, provided that where two or more adjoining rooms are so constructed as to be intended for rental to one tenant, such rooms may ventilate into one another.

7. Where a room is ceiled and there is an intervening space between the ceiling and the roof covering, provision must be made for ventilation by making an opening in the ceiling covered with mesh wire, wire gauze or such other material as may be approved by the Local Authority. Such opening to be not less than 3 square feet in area.

8. Every barrack yard must be provided, in addition to the W.C's or privies specified in the by-laws, with

- (a) A bathroom to every four rooms;
- (b) A washing platform with an area of not less than 1 square yard of surface to every room or set of rooms;
- (c) A shed for cooking having a concrete floor and affording an area of not less than 30 square feet to every room or set of rooms.

The above Specification was approved by the Central Board of Health on the 25th day of April, 1918.

C. F. LASSALLE,

Secretary, Central Board of Health.

The continued paucity of new houses, aggravated by the conversion of many large barracks, such as Telegraph yard and others, into garages, motor-show-rooms, factories, workshops, warehouses, laundries, stores, drug shops, refreshment parlours, restaurants, &c., has gradually brought about a state of things in which the available housing accommodation is insufficient to meet the wants of the resident population *plus* the growing immigration of vagrant labourers, East Indians especially, from the agricultural districts of the Colony.

In fact—and more particularly since the war—a fairly rapid process of industrialisation of the former homes of the poor is taking place in the central and lower portions of Port-of-Spain—a somewhat analogous process, be it noted, to what is happening on a big scale in many large cities of Europe, notably London, where, as trade penetrates deeper and deeper into the heart of the West End, the mansions of the old rich are pulled down to make way for the show-rooms of wealthy shopkeepers—with the result that every available shelter, sanitary or insanitary, is not only occupied but eagerly competed for. Moreover, to cater for the demands of persons on the waiting lists, a practice has sprung up whereby owners of large houses, particularly two storeyed buildings previously occupied as shops on the ground floor, and clubs, workshops or private dwellings on the

first floor, farm out the entire buildings to middlemen at a fixed rental to be sublet to the profit of the latter at whatever prices can be got. The rooms in such houses are surreptitiously, if the writer may say so—since the owners habitually disclaim all knowledge of it—divided by the middleman with matchwood or sackcloth into as many rooms and cubicles as his conscience will allow or the necessity of the moment dictates.

Sometimes a considerable community of men, women and children, it may be 30, 40 or more, is crowded together in such places under conditions that are grossly injurious to health and fatal to decency.

As regards the old type of barrack yard, of which there are more than 2,900, housing nearly 36,000 occupants, or more than half of the total population of the City, the most common defects are inadequate lighting, ventilation and height off the ground, low roofs—neither ceiled nor close-boarded, incomplete partitions between contiguous rooms, bad repair and insufficient open space about the buildings—a large proportion of them being built up against party walls. Frequently, and especially in the larger barrack yards, there are double rooms in each range, built back to back with each other. Every year attempts are made to have the sanitary condition of the barracks improved, but progress in this direction has not been satisfactory.

Circulated with this report is a leaflet more fully descriptive of insanitary barrack yards and their danger to the public health issued by the Trinidad Association for the Prevention and Treatment of Tuberculosis.

Of 1,761 statutory notices to ventilate, closeboard roofs and otherwise improve the barracks, served during the period of eight years 1921-1928, 708, or 40·20 per cent., were attended to, leaving 1,053 uncomplished with, mainly through hopeless poverty, temporary financial embarrassment or the skilful use of Fabian tactics by unwilling owners. Particulars of these notices are tabulated below :—

| Statutory Notices. | | | | | | | |
|--------------------|----|----|----|---|----------------|---------------|---|
| Year. | | | | Served to ventilate, closeboard, &c., barracks. | Complied with. | Uncomplished. | Number of uncom- plished notices. Per cent. of total served. |
| 1921 | .. | .. | .. | 338 | 134 | 204 | 60 |
| 1922 | .. | .. | .. | 275 | 111 | 164 | 59 |
| 1923 | .. | .. | .. | 430 | 206 | 224 | 52 |
| 1924 | .. | .. | .. | 245 | 123 | 122 | 49 |
| 1925 | .. | .. | .. | 164 | 57 | 107 | 65 |
| 1926 | .. | .. | .. | 123 | 29 | 94 | 76 |
| 1927 | .. | .. | .. | 95 | 29 | 66 | 69 |
| 1928 | .. | .. | .. | 91 | 19 | 72 | 79 |
| Total | .. | .. | .. | 1,761 | 708 | 1,053 | .. |

It is apparent from this table that the proportion of notices which are not complied with is steadily increasing, and affords no satisfactory indication that the necessary improvements are likely to be completed within a measurable period of time. Moreover, the general results of what has already been achieved are hardly apparent, owing to the fact that the improved barracks are scattered throughout the town—every attempt to proceed on a block system having failed because of the varying ability of owners in any given block to execute the specified works.

The question arises, what must be done to deal with this sanitary problem? The law on the subject is plain. With respect to barrack yards existing at the commencement of the Public Health Ordinance it is provided that on a report from the Medical Officer of Health that a barrack yard is in such a state as to be unfit for human habitation or injurious to the health of the occupants or to the public health, the local authority shall take proceedings under the nuisance sections of the Ordinance to have the same put in proper sanitary condition. Such proceedings comprise the service of a notice on the owner requiring him to do such things as may be necessary to abate the nuisance specified and, failing compliance, to make a complaint before the Magistrate who may issue a nuisance order requiring compliance with the requisitions of the notice, or a closing order

prohibiting the barrack from being used for human habitation under penalty of fine or imprisonment ; moreover, in the event of continued default, the local authority may enter the premises to which the nuisance order relates and do whatever may be necessary in execution of such order at the cost of the owner, such cost, which may be recovered in any Court of competent jurisdiction, to be deemed money paid for the use and at the request of the person on whom the order is made.

Under ordinary circumstances the carrying out of these provisions of the Ordinance to their logical end would be a mere matter of routine, but there are difficulties in the way. In the first place the number of owners who are really unable to improve their premises for reasons of finance is considerable, whilst many who appear to have the means declare that since the war the cost of labour and material is so great that it neither pays to build new barracks nor put existing ones in proper sanitary condition. In one case during the year this contention was put to the test and steps were taken to enforce the law in respect of one of the largest and most insanitary barracks in the City. The owner promptly quashed his arrangement with the middleman, turned out the occupants, in spite of their pleading to be allowed to remain—bad as the conditions were—closed part of the premises for human habitation and converted the rest into a warehouse. The presumable results were that the evicted tenants had to squeeze in wherever they could find shelter and increase the overcrowding already existing in other barrack yards. The writer submits that such a state of things cannot be dealt with by routine administration but calls for enquiry by the local authority with a view to the adoption of some definite policy of relief.

The question of relieving overcrowding in the barracks may be considered under two heads :—

- (1) The rapid improvement of insanitary barracks where necessary by
 - (a) letting in light and air
 - (b) raising low buildings off the ground and
 - (c) making general repairs.
- (2) The building of small cottages to be let to persons of the working class at moderate rentals under a Municipal or a joint Government and Municipal scheme.

(1) would in a comparatively short time effect mass improvement of the greatest importance in the health of the City, but without (2) the benefits to be derived from (1) would not be permanent, for even with good lighting and ventilation there is a limit to the number of persons whom a barrack room 10 x 10 feet can accommodate without danger to health ; and since the avowed policy of local investors in house property is not to build new houses for rent to the poorer classes, on the ground that it does not pay them to do so, overcrowding, with the continuing growth of the population, would again become rampant in the improved barracks.

With regard to (1) as far back as 1904, in a public lecture on the Health of the City presided over by the then acting Governor, Mr.—now Sir Hugh—Clifford, the writer suggested that, in view of the peculiarities of local economic conditions, the best solution of the health aspect of the barrack yard problem was that the Government should, as a necessary public health measure, let light and air into unventilated rooms owned by poor persons who could not afford the expense of doing so.

Again in 1913, at the West Indian Intercolonial Tuberculosis Conference, the same idea was advocated and improvements on the lines suggested were actually made by the Tuberculosis Association at a moderate cost in a barrack yard in Prince Street, which was kept on show as an exhibit of the Tuberculosis Exhibition held during the Conference.

If this plan were now carried out on a large scale, the benefit to the public health would be greater than when the suggestion was originally made, the overcrowding having since then become more serious.

No one denies the crying necessity for the improvements: the only obstacle is the bad financial position of a large proportion of owners and the reluctance of others who are better off to execute the necessary works on the plea of the poverty of the returns which would result from such expenditure.

The writer suggests that the *impasse* thus constituted may be overcome by enforcing the provisions of Section 145 of the Public Health Ordinance with respect to any barrack certified by the Medical Officer of Health to be unfit for human habitation or injurious to the health of the occupants; but in order to temper the undoubted hardships that would be created in a large proportion of cases if, on making default in carrying out the requisitions of a nuisance order, indigent owners were summarily called upon to pay the whole of the costs of works executed by the local authority in pursuance of the law in that behalf, the writer further suggests that the Public Health Ordinance be amended to provide that, where it is proved to the satisfaction of the local authority that default in making compliance with a nuisance order has been due to poverty or other inability, the repayment of the costs of any works so executed by the local authority may be made by instalments extending over such period, say not exceeding ten years, as the local authority, after consideration of the circumstances of each case, may decide.

Besides the statutory powers referred to in the preceding paragraph, a simple procedure is prescribed under Section 142 of the Ordinance for dealing with cases of default in complying with bye-laws made with respect to barrack yards and common lodging houses. In such cases the local authority is empowered to serve a notice on the owner of the barrack yard or keeper of the common lodging house, as the case may be, naming the default and requiring its remedy within a specified time. If on expiry of the notice the default is not remedied, the local authority may do the work required to be done and recover the expenses from the defaulting party as a simple contract debt in any Court of competent jurisdiction.

As the requirements of the bye-laws include adequate ventilation and access of light to every room or part of a building occupied as a living room in a barrack yard or common lodging house, proper and sufficient water supply, sufficient privy accommodation, painting or limewashing, the keeping of drains in good repair and the paving of yards whenever required by the Medical Officer of Health, it may be found more expeditious to proceed with the improvement of the barrack yards under this section of the Ordinance, instead of under section 145, with power, in the circumstances already explained, to allow a defaulting owner to pay the cost of the works executed on his behalf by such instalments as the local authority may require.

By proceeding on these lines, which the writer strongly recommends to the favourable consideration of the local authority, substantial progress would be made year by year in remedying the insanitary structural conditions in the majority of barrack yards of the City to the great benefit of the public health.

As regards the question of building small cottages for hire to persons of the poorer class, it is true there is no provision in the Public Health Ordinance empowering the local authority to construct such houses, but under Part XIV of the Ordinance power is vested in the Governor by section 104 thereof, to cause to be provided in such parts of the Colony as he may deem fit, one or more hospitals or camps for the reception and isolation of persons suffering from infectious disease and, also, to do all such other matters and things as the Governor in Executive Council may deem necessary for the protection of the public health. The Hospitals Ordinance, Cap. 99, also makes it lawful for the Governor with the approval of the Legislative Council, to establish wherever required general and district hospitals for the sick poor . . . special hospitals for persons attacked by any infectious or contagious disease requiring the segregation of the sufferers, and almshouses or houses of refuge for the imbecile, aged, infirm or destitute poor. Power is added to fix and charge maintenance dues in respect of any inmate maintained or other persons relieved by the aforesaid institutions.

It is not contended that houses may be built by Government for hire to poor persons under these powers, but their enactment establishes the principle of Government's responsibility to establish hospitals for the sick poor, and persons suffering from infectious diseases, and provide suitable housing accommodation for the helpless poor. This being admitted it should not be a great strain to accept the principle of and acquire legislative sanction for providing houses for hire to the able-bodied poor who, through circumstances over which they have no control, must either live under housing conditions that are injurious to their health or be homeless.

It is a commonplace that in ordinary circumstances competition between Government and private enterprise is not desirable, but in relation to the existing shortage of housing accommodation for the poorer class of the City private enterprise is at a standstill, hence the question of competition would not arise if a building programme were undertaken by the Government alone, or jointly with the City Corporation.

Failing acceptance of this idea, there is still left for consideration the question of aiding, and thereby stimulating, private enterprise either, for example, by a remission of Customs duty on all materials used, granting lands free, or partly free, for building purposes, giving a bonus on each house completed, or remitting a portion of the rates by assessing such buildings on a reduced scale with a right to restrict the rent within certain definite limits.

So far the moral aspects of overcrowding and the absence of separate sleeping rooms for growing boys and girls in barrack yards have not been touched on. The degrading influence of these evils on the minds and bodies of the young, their baneful effects in breeding promiscuity, social disease and crime are too well known to require labouring in this report. It seems sufficient on these grounds alone, to urge the necessity for some combination of public effort to initiate a building scheme whereby houses of at least three rooms may be brought within the reach of those now forced to live in barrack yards, so that the children, who should be regarded as assets of the utmost value in the development of the Colony, may be allowed to grow up amid decent surroundings and become useful, self-respecting citizens.

Any well co-ordinated steps towards the achievement of that end would not only be a notable advance in the uplift of the poorer working class but, also, a great contribution to the health and progress of the City.

In considering these recommendations it ought to be borne in mind that the whole spirit of the Public Health Ordinance is the prevention of disease, and the writer respectfully begs to submit that having regard to the overcrowding of the barrack yards which injuriously affects the health of the occupants, favours the spread of infection and threatens to hinder efficient control of any dangerous infectious disease by which the City may be invaded, it would be a policy of greater wisdom to make a start now to remedy these grave menaces to the health of the population by building, or aiding the construction of, suitable houses for hire to persons of the poorer class, rather than take the risk of being put to the necessity of hastily establishing hospitals and camps for their reception and isolation *after* an outbreak of dangerous infectious disease has taken place.

SANITARY ADMINISTRATION.

Staff.—The full strength of the Staff of the Public Health Department at the close of the year consisted of the Medical Officer of Health, one chief and two assistant clerks—all of them qualified sanitary inspectors—and an office messenger; a chief sanitary inspector, ten sanitary inspectors and five assistant sanitary inspectors for outdoor work. One sanitary inspector is an Associate and another a holder of the Certificate of the Royal Sanitary Institute of London. Besides the foregoing there are four anti-mosquito gangs, each composed of a driver and two ladder men; four rat gangs, each consisting of a driver and three boys. Each rat gang is equipped with traps, bait and rat poison, and, also, with a portable Clayton asphyxiator and a supply of sulphur. One or two gangs of labourers are employed, according to the season of the year, in oiling swampy lands and pools in Woodbrook, the bed of the Maraval River below St. James Bridge, the bed of the Dry River and earthen drains. Two men, under

the supervision of a sanitary inspector, attend to the work of disinfecting premises for infectious diseases and vermin. Two gangs, each composed of two spraymen, are employed for oiling cesspits under the general supervision of the sanitary inspector of the district in which they operate.

The scavenging and cleansing of the Eastern Market is done under the daily supervision of the Chief Sanitary Inspector.

Changes and Promotions.—The following changes and promotions took place in the permanent staff:—

Sanitary Inspector J. H. Partap was dismissed on the 5th September. Assistant Sanitary Inspectors G. F. Ashe, F. Babb and O. E. Forde, ASSOC.M.R.S.I., were promoted sanitary inspectors as from the 1st January. Mr. A. Romain was appointed assistant sanitary inspector from 1st November to complete the strength of the establishment consequent on the dismissal of Mr. Partap.

Sanitary Works.—The following is a summary of the sanitary work performed under the writer's direction and immediate supervision of the Chief Sanitary Inspector, Capt. E. W. Lack, V.D.

House to House Inspection.—108,748 visits of inspection were made to premises in the City—equivalent to an average of 9,062 visits per month. The monthly records of these visits, and, also, the number of provision shops and stores, meat shops, bakehouses, cake and ice cream shops, restaurants and cookshops, dairies and cowsheds, stables, aerated water and other factories and workshops, tanneries, &c. inspected each month are given in Table A.

Results of Notices and Verbal Directions.—The requirements of notices and verbal directions were complied with in 24,040 instances and the results, as shown in Table B, included 4,656 yards, 2,862 drains, 1,462 sewer basins, 633 sinks, 257 washing troughs, 424 washing platforms, 352 gullies, 19 lavatories, 114 urinals cleansed; 43 new flush tanks and 17 sewer basins installed; 360 damp or swampy yards filled with earth; 355 drains repaired; 139 privies built, 718 repaired, and 338 made fly-proof; 1,397 cesspits emptied, 127 constructed, 302 repaired. 2,393 sprayings of cesspits with crude and distillate oil were done at the cost of the owners, and 7,956, or a monthly average of 663, further sprayings at the cost of the local authority (Table E), as a preventive measure against the spread of enteric fever and the breeding of mosquitoes; 164 rat holes were stopped; 1,080 new dustbins provided, 579 repaired, 796 covered, 1,581 cleaned and disinfected; 186 overspreading trees causing dampness and preventing proper access of light trimmed or felled; 914 premises cleared of bush; 39 barracks ventilated, and the roofs of 13 closeboarded; 241 retail shops cobwebbed, 37 scrubbed and 121 painted; three bakehouses cobwebbed, seven repaired and 19 scrubbed; 121 refreshment parlours cobwebbed, 144 scrubbed and 39 painted; 71 barracks cobwebbed and five painted; four stables conwebbed, ten scrubbed and ten repaired; 33 bread carts, 13 spirit shops, six restaurants and four cookshops painted; two barbers' shops cobwebbed, nine scrubbed and 11 painted; two provision stores painted and 59 cobwebbed.

Disinfection.—Particulars of this service are given in Table C. showing that 359 premises were disinfected for infectious diseases and 690 for vermin. The special coach reserved for cases of infectious disease on the Trinidad Government Railway was disinfected on 26 occasions for leprosy (Table D).

Oiling of Cesspits.—Table E gives a monthly record of the spraying of cesspits free of charge to the owners, with crude and distillate oil to prevent the breeding of mosquitoes and flies, and as a protection against the transmission of typhoid infection by the latter. This precaution is taken at, and within a wide zone of, every premises in the unsewered portions of the City from which a case of enteric fever is notified.

Limewashing.—Table F shows month by month the numbers of premises and places, totalling 1,218, limewashed as a result of notices and verbal directions. These included among others, 924 privies, 119 barracks, 29 stables, 25 bakehouses, 37 cowsheds, 22 kitchens, 17 common lodging houses and 11 restaurants, averaging 102 premises limewashed per month.

Unsound Food.—Table G gives particulars of unsound foodstuffs seized and destroyed under Part X (a) of the Public Health Ordinance.

Destruction of Rats and Mice.—Table H shows that 7,122 rats and 827 mice were destroyed compared with 8,420 of the former and 1,653 of the latter in the preceding year. Of the former 5,851 were caught by the rat gangs, and 1,271 purchased at the bounty rate of five cents for adult and three cents for young rats. The rat gangs operate with traps and the portable Clayton asphyxiators, of which there are four—one to each gang. When attacked by the sulphur dioxide gas the rats either die in their holes or are clubbed as they rush out for fresh air. A total of 6,972 rats was examined by the Government Bacteriologist for *B. pestis* with negative results. 150 immature rates were not examined (Table J).

Anti-Mosquito Work.—Details of the work done by the anti-mosquito gangs are shown in Table K. The ladder men paid 23,231 visits to premises in the City. Defective eaves gutters were found on 2,080 occasions, defective eaves gutters containing water on 689 occasions, and defective eaves gutters containing water with mosquito larvae on 458 occasions. In 1,002 instances mosquito larvae were found on occupied premises in tubs, antiformicas, empty milk or sardine tins, &c. and the nuisance abated there and then.

17,664 gallons of crude oil were used in spraying pools and swampy ground in the low-lying portions of Woodbrook, and 100 gallons in oiling pools in the Dry River for the purpose of preventing the breeding of mosquitoes.

Reports to Water and Sewerage Department.—Table L shows from month to month the number of leaks, defective taps, chokes and other defects noticed by sanitary inspectors in the course of their domiciliary visits and reported to the Water and Sewerage Department. The numbers totalled 1,218, or an average of 101.5 reports per month.

Prosecutions.—Table M gives details of the offences for which informations were laid before the City Magistrate under the Public Health Ordinance and the bye-laws made thereunder. The total number of cases was 146, all of which resulted in convictions. Three offenders were reprimanded, and fines aggregating £24 5s. 0d. were imposed on the rest. The following are among the principal offences for which the informations were laid :—

| | <i>Total informations laid.</i> | <i>Total fines.</i> |
|---|---|---------------------|
| | | £ s. d. |
| Keeping stagnant water in antiformicas, &c. | 76 | 8 12 6 |
| Exposing foodstuffs for sale without protection from contamination | 26 | 5 2 6 |
| Failing to maintain eaves gutters in efficient action | 5 | 2 10 0 |
| Failing to keep shaving mugs in barber's shops clean | 5 | 1 15 0 |
| Hawking milk without carrying badges | 14 | 1 12 6 |
| Establishing aerated water factory in a barrack yard | 1 | 1 10 0 |
| Failing to maintain sewer basins clean | 3 | 1 0 0 |
| Exposing foodstuffs for sale at a height of less than 2 feet off the ground | 9 | 17 6 |

The Tables relating to this part of the Report appear in Appendix II.

Observance of Health Week.—As is now customary Health Week was observed in October and the following is a copy of the Special Committee's Report thereon:—

In compliance with a request contained in a communication dated the 1st June, 1928, from the Secretary to the Health Week Committee of the Royal Sanitary Institute of Great Britain, the City Council, as the Local Authority for Port-of-Spain on the 21st June, 1928, decided once again to arrange for the observance of Health Week in the City. To that end a special joint committee was named by the Mayor, consisting of

His Worship the Mayor (Alderman the Honourable Gaston Johnston, K.C.), Chairman; the Deputy-Mayor (Councillor the Honourable A. A. Cipriani), Councillor T. P. Achong, the Town Clerk (Dr. E. Prada), the City Engineer (Mr. T. H. Scott), the Medical Officer of Health (Dr. G. H. Masson), with the Surgeon-General (The Honourable Dr. K. S. Wise), the Medical Inspector of Health for the Colony (Dr. J. R. Dickson), the Director of Education (The Honourable F. C. Marriott), the President of the Medical Board (Dr. S. M. Laurence), the President of the Child Welfare League (Mr. A. D. Russell) and the Honourable Dr. A. H. McShine, with Mr. R. L. Power (of the Town Clerk's Department) as Secretary.

The Committee held a meeting on the 7th August, 1928, when three sub-committees were appointed from its members; an Exhibition Sub-Committee, with Dr. Masson as Chairman, a Publicity Committee of which Dr. Masson was also Chairman, and an executive committee consisting of the Mayor (Chairman), the Deputy-Mayor, and the Town Clerk. Authority was given to these sub-committees to arrange for and carry out the observance of Health Week along lines then determined upon, without the necessity for having their decisions submitted to and approved by the Health Week Committee.

It was decided, following the precedent of the previous year, to observe Health Week in Port-of-Spain from Saturday afternoon the 6th October to the following Friday night the 12th October, and to inaugurate the observance with a Health Exhibition to be opened, at the Prince's Building, on Saturday afternoon the 6th.

As originally suggested, the Health Exhibition this year would have included the showing and demonstration to visitors of a number of representative local industries (bread making, dairy farming, ice cream making, &c.) by private firms, on the lines of a trade exhibition of articles connected with pure food, and the maintenance of public and private health, and sanitation. But for various reasons the Exhibition Committee decided that this should not be carried out on the present occasion, though it might perhaps be worthy of more careful consideration in arranging for Health Exhibitions in future years.

The Exhibition was organised by a sub-committee consisting of Dr. G. H. Masson, Medical Officer of Health of the City (Chairman); Councillor T. P. Achong; Dr. E. Prada (Town Clerk); Mr. T. H. Scott (City Engineer); the Honourable K. S. Wise, M.D. (Surgeon-General); Dr. J. R. Dickson (Medical Inspector of Health for the Colony); Dr. S. M. Laurence (President of the Medical Board); the Honourable F. C. Marriott (Director of Education) and Mr. A. D. Russell with Mr. R. L. Power (Secretary).

The following is a list of the stalls erected in the Exhibition Hall:—

- (a) Model Farm, by the Department of Agriculture.
 - (b) Model Dairy, by the Department of Agriculture.
 - (c) Fruit stall, by the Department of Agriculture.
 - (d) Food-stuffs and Vitamins, by Dr. Alfred Clarke.
 - (e) Dental Stall, by Dr. J. R. Carrington and Dr. R. Johnstone.
 - (f) Sanitary Appliances, by the Exhibition Committee.
 - (g) Child Welfare, by the Child Welfare League.
 - (h) Physical Culture and Sports, by Capt. Dow and Mr. Thompson.
 - (i) Scouts stall, by Capt. Dow.
 - (j) Girl Guides stall, by Mrs. Lake.
 - (k) Training of the Blind, by the Institute of the Blind.
 - (l) The Health House, by the Rev. Sisters of St. Joseph's Convent.
 - (m) Fireless Cookery, by Mrs. Dickson Fraser.
 - (n) Pathological Section—
 - (i) Tuberculosis, by the Trinidad Association for the Prevention and Treatment of Tuberculosis.
 - (ii) Enteric Fever
 - (iii) Ankylostomiasis
 - (iv) Malaria
- } by the Surgeon-General, Honourable Dr. K. S. Wise,
the Medical Inspector of Health, Dr. J. R. Dickson,
and Dr. G. H. Masson, Medical Officer of Health,
Port-of-Spain

Arrangements were also made by the City Council so that during the whole of Health Week the following important municipal institutions—the Mucurapo Pumping Station, the Cocorite Farm Wells and the Farrell Pumping Station, the Maraval Reservoir and Chlorination Station, the St. Clair Filtration Plant and the Abattoir, as well as the Ice Factories of the Trinidad Trading Co. and the Trinidad Electric Co.—should be open to any visitors who might care to be shown through them; and School Teachers or others wishing to arrange for visits by groups of school children or other persons, were requested to notify the Secretary to the Health Week Committee who arranged for an officer to be in attendance to show such groups of visitors over the stations and explain their working. Several groups of school children from the senior classes took advantage of this opportunity.

During Health Week also three interesting cinematograph films dealing with the House Fly, the Mosquito, and other Health Week subjects were shown. These shows were exhibited on Saturday evening the 6th October, Tuesday evening the 9th October and Friday the 12th October, at the Prince's Building, and on Monday the 8th October and Thursday the 11th October in Woodford Square. They were also, by the kind co-operation of Mr. P. Humphrey, shown, free of charge, at the Empire Theatre on Wednesday and Friday at Special Matinees at 4 p.m. and 5 p.m. In addition a film illustrating Girl Guides' Gymnastic health exercises was shown by Mrs. Lake on the Wednesday evening at the Prince's Building at 8 p.m.

The Exhibition was opened by His Excellency the Governor Sir Horace A. Byatt, K.C.M.G. on Saturday afternoon the 6th October, at 3 p.m. and remained open to the public until 9.30 that day; from 4 to 6 p.m. on the Saturday afternoon and from 4 to 9.30 p.m. every afternoon and evening thereafter.

until Friday the 12th October. Admission was free; and the following interesting and instructive programme was arranged at the Building in connection with the Exhibition as well as at the principal schools and colleges and the meeting halls and clubs and associations in the City.

Health Week Programme.

Saturday, 6th October, 1928 :

Opening of the Health Exhibition at the Prince's Building, by His Excellency the Governor Sir Horace A. Byatt, K.C.M.G., at 3 p.m.
After the opening ceremony,
Address by Captain Dow on "Scouting" in the Concert Hall of the Prince's Building at 4 p.m., and display by the Girl Guides, under the direction of Miss Sophie Potter, of "Folk Dancing" at 5 p.m.
The Constabulary Band played selections from 3 to 5 p.m.
Health Films at Prince's Building, 8 p.m.
Admission to the Exhibition was free of charge to all; and it was arranged, where possible, that someone should be present at the various stalls to explain the exhibits to visitors.
The Exhibition was open to the public daily from 4 p.m. to 9.30 p.m.

Sunday, 7th October, 1928 :

The Heads of the various denominations were requested by the Health Week Committee to approve of references being made to the subject of health and hygiene and the prevention and cure of disease, in all sermons to be delivered in the City Churches; and also in the addresses to children attending Sunday Schools.
Addresses to the Brotherhood meeting at St. John's Hall, Pembroke Street, by the Honourable Dr. A. H. McShine at 4 p.m.
Health Exhibition at the Prince's Building, 4 to 6 p.m. (*only*).

Monday, 8th October, 1928 :

Visit by pupils of Training Colleges to Exhibition, 2 p.m.
Visit by pupils of St. Joseph Convent to Exhibition, 2.30 p.m.
Visit by pupils of St. Mary's College to Exhibition, 3 p.m.
Address by Dr. J. E. Boucaud to pupils of Holy Name Convent, 3 p.m.
Address on "Wolf Cubs" by Miss Byatt at Prince's Building, 4 p.m.
Girl Guides in "Brownie Health Games," by 48 girls on the enclosure outside the eastern end of the Prince's Building (weather permitting) at 5 p.m. under the direction of Miss Nora Yuille and Miss Cambridge.
Exhibition open, free of charge, 4 to 9.30 p.m.
Health Films (Mosquito and Fly) at Woodford Square, 8 p.m.
Clarie Wear's string band at the Prince's Building, 8-9.30 p.m.

Tuesday, 9th October, 1928 :

Visit by pupils of Training Colleges to Exhibition, 2 p.m.
Visit by pupils of Holy Name Convent to Exhibition, 2.30 p.m.
Visit by pupils of Queen's Royal College to Exhibition, 3 p.m.
Lecture on "Scouting" by Capt. Lyndsey Grant, at Prince's Building, 4 p.m.
Display of "Skipping" by Girl Guides, No. 7, Company at Prince's Building Concert Hall, 5 p.m.
Address by Dr. Hayes to the Workingmen's Association at "Souls" Hall, Prince Street, 8.30 p.m.
The Honourable Capt. A. A. Cipriani, Deputy-Mayor in the Chair.
Belmont Orphanage Band at Prince's Building, 8 to 9.30 p.m.
Health Films (Mosquito and Fly) at Prince's Building, 8 p.m.
Health Exhibition at Prince's Building (admission free), 4 to 9.30 p.m.

Wednesday, 10th October, 1928 :

Visit by pupils of Training Colleges to Exhibition, 2 p.m.
Visit by pupils of the Bishop's High School to Exhibition, 2.30 p.m.
Visit by pupils of St. Mary's College to Exhibition, 3 p.m.
Address by Dr. G. H. Masson to pupils of St. Joseph's Convent, 3 p.m.
Scout lecture by Rev. Fr. English on "Rovers" at Prince's Building, 4 p.m.
Health Films at Empire Theatre (admission free), 4 p.m. and 5 p.m.
Girl Guides Exhibition of "Folk Dancing" at Prince's Building under direction of Miss Sophie Potter, 5 p.m.
Girl Guides' Health Film and Mosquito and Fly Films at Prince's Building with address by Mrs. Lake 8 p.m.
Constabulary Band at Prince's Building, 8 to 9.30 p.m.
Health Exhibition at Prince's Building (admission free), 4 to 9.30 p.m.

Thursday, 11th October, 1928 :

Address by Honourable Dr. A. H. McShine to pupils of Girls' Training College, Tranquillity 1.30 p.m.
Address by Dr. Farrell to pupils of Boys' Training College, Tranquillity, 1.30 p.m.
Visit of pupils of St. Joseph Convent to Exhibition, 2 p.m.
Visit of pupils of Queen's Royal College to Exhibition, 3 p.m.
Address by Dr. E. Prada to pupils of St. Mary's College, 3 p.m.
Lecture by Assistant Commissioner, E. J. Johnson on "Scouting" at Prince's Building, 4 p.m.
Display of physical drill by Girl Guides in the Concert Hall of the Prince's Building under the direction of Capt. Dow and Capt. J. B. L. Todd, at 4.45 p.m. Chairs for visitors will be placed round the walls and on the stage in the Concert Hall; the drill will take place in the centre of the floor.
Address by Dr. Alfred Clarke (acting Government Bacteriologist) to Richmond Street Debating Association, 8 p.m.
Address by Dr. T. P. Achong to Workingmen's Association at "Victory" Hall, corner of Duke and George Streets, 8.30 p.m. The Honourable Capt. A. A. Cipriani, Deputy-Mayor, in the Chair.
Mosquito and Fly Films in Woodford Square, 8 p.m.
Health Exhibition at the Prince's Building (admission free) 4 to 9.30 p.m.
Clarie Wear's String Band at Prince's Building, 8 to 9.30 p.m.

Friday, 12th October, 1928 :

Visit of pupils of Training Colleges to Exhibition, 2 p.m.
 Visit by pupils of the Bishop's High School to Exhibition, 2.30 p.m.
 Address by Dr. J. R. Dickson to pupils of Queen's Royal College, 3 p.m.
 Address by the Honourable F. C. Marriott (Director of Education), on "Scouting in the Schools" at Prince's Building, 4 p.m.
 Health Films at Empire Theatre (admission free), 4 p.m. and 5 p.m.
 Address by Dr. S. M. Laurence at Salvation Army Hall, Charlotte Street, 8.30 p.m.
 Address at the Portuguese Association Rooms, by Dr. Caldeira, 8.30 p.m. The Consul General for Portugal will take the Chair.
 Symposium arranged by Dr. T. P. Achong, at the Chinese National Association Rooms, Charlotte Street, 8.30 p.m. Addresses by Dr. T. P. Achong and Dr. Arnold R. McLean, D.M.O. of Port-of-Spain.
 Child Welfare League convention at Stephens Clinic Building, 2.30 p.m.
 Mothers Meeting organised by the Child Welfare League at the Prince's Building Concert Hall, 4.30 p.m.
 Domestic display by Girl Guides at their stall in the Exhibition Hall, Prince's Building, by No. 1 Company, 4 p.m.
 Girl Guides sports at Prince's Building in the grounds outside the eastern end of the Building (weather permitting), organised by Mrs. Lake, 5 p.m.
 Mosquito and Fly Films at Prince's Building, 5 p.m. and in Woodford Square, 8 p.m.
 Belmont Orphanage Band at Prince's Building, 8 to 9.30 p.m.
 Health Exhibition at Prince's Building (admission free), 4 to 9.30 p.m.

Two items of the exhibition, apart from the usual stalls dealing with tuberculosis, malaria, typhoid and hookworm, which deserve special mention were the dairy and the model farm exhibits arranged by the Department of Agriculture, where not only the proper care and feeding of the cattle was illustrated and explained in lectures by the Government Veterinary Surgeon, but the screening, purification, sterilisation cooling and keeping, as well as the sanitary delivery of milk to customers of a dairy, was shown and described. Mention might also be made of a most interesting and attractive exhibit of a "health house" by the sisters of St. Joseph Convent—a model cottage, constructed entirely of articles of wholesome food—oats, corn, chocolate, rice, vegetables and greens, &c., which attracted much attention.

Another section to which special reference may fairly be made was that upon which, under the auspices of the Department of Agriculture, there were shown a large selection of the "best health foods," including the principal fresh fruits, vegetables and ground provisions of the island, together with samples of eggs, milk, cereals, peas, and beans, fats and oil, and dried fruits and nuts. To each was attached a small printed card bearing a statement of the vitamin, protein, sugar and fat contents of the sample. During each afternoon and evening Dr. Alfred Clarke, Acting Government Bacteriologist (late of the New Zealand Public Health Service), was in attendance here and gave interesting and instructive explanations of the exhibits to groups of evidently appreciative visitors.

On Friday, the 12th October, the Child Welfare League arranged a special convention which was largely attended by delegates from the several country districts as well as city workers. The convention was opened at the Stephens Clinic Building in Belmont Circular Road at 2.30 p.m. when Lady Byatt welcomed the country delegates, after which the following programme was carried out:—

- 1.—Address, "The Future of the League," by the Surgeon-General.
- 2.—Paper, "The Need of Medical Aid in the San Fernando Branch," by the San Fernando Delegate.
- 3.—Paper, "The League Nurse Problem in a Country district," by the Sangre Grande Delegate.
- 4.—Discussion—Opened by Dr. S. M. Laurence.

Afternoon tea was then served to the delegates, and at 4.30 p.m. the convention met again at the Prince's Building where addresses and explanations of the work of the League were given by the attendants at the Child Welfare League Stall in the Exhibition Hall.

The large attendances, not only on the opening afternoon, but every afternoon and evening throughout health week, at the Prince's Building for the purpose of visiting the exhibition, and to see the various cinema health films shown, or to listen to the short addresses, and witness the gymnastic displays by boy scouts and girl guides, testify to the deep interest taken in health week by the masses of the people; and encourage the belief that as time goes on there will be, as there has been during the past two years, a constant and marked improvement in the scope and instructiveness, and it may be hoped with confidence in the usefulness of the results of the annual observance of Health Week in Trinidad.

Before closing this report, the Health Week Observance Committee desire to place on record their grateful appreciation of the practical interest shown in the effort by His Excellency the Governor in consenting, despite his recent severe illness, to open the Health Exhibition at the Prince's Building, on which occasion he made some remarks on the necessity for a general mosquito campaign by all sections of the community which must, we believe, have good results. The Committee also desire to acknowledge the valuable assistance readily and ungrudgingly given by all those who, by addresses to the colleges, schools and clubs, by lectures at the exhibition, or by assistance at the stalls, took an active part in furthering the observance of Health Week; and in this they beg to include the boy scouts and girl guides, and their leaders, and last, but not least, the press of the Colony for useful notices and publication of programmes and reports throughout the week.

Legislation.—Ordinance No. 5 of 1928 was passed in the month of April to amend the Public Health Ordinance, Cap. 98 by (1) deleting certain words from Section 107 (1) so as to cancel the former exclusion of hospitals in which only persons suffering from infectious diseases are received from premises to which the

compulsory notification of infectious disease is applicable under the Ordinance ; (2) adding words to provide that a medical practitioner shall be entitled to the usual notification fee for every case of infectious disease certified by him to the Medical Officer of Health, whether the case occurs in his private practice or in his practice as a Government medical officer ; (3) an addition of eight paragraphs to Section 156 of the principal Ordinance to provide for the registration of shops where food is sold and of persons selling food ; (4) the insertion of a paragraph as Section 156 (a) of the principal Ordinance prescribing the duration of registration as provided for in the amending Ordinance.

Reports.—The following is a list of Reports submitted to the local authority during the year :—

(1) *Regular Reports.*

Monthly Reports on the Health of the City and the work of the Sanitary Staff—12.
Quarterly Returns of Causes of Deaths—4.

(2) *Special Reports.*

Dumping of refuse near Rice and Oil Mills, Piccadilly Street.
Local Sewerage System at Woodbrook.
Incinerator for House Refuse.
Mosquito breeding places—Drains at St. Clair.
Mosquitoes and Flies at de Verteuil Street.
Anopheles breeding places on lands south of the new Mucurapo Road.
Brief Report on the Health and Sanitary condition of the City of Port-of-Spain during the period of nine months ended 30th September, 1928.
Mosquito breeding places at Mucurapo.
Charges for Analysis of Foodstuffs.
Miscellaneous subjects—13.

(3) *Reports on Plans and applications for Leases in Woodbrook.*

Plans—84.
Leases—47.

Meetings.—The writer attended all the monthly meetings of the City Council sitting as local authority for the purpose of dealing with Public Health matters, the ordinary monthly and special meetings of the Council for dealing with general matters, and a number of special Committee meetings.

Financial.—The Revenue collected by the Public Health Department amounted to \$1,215.54, compared with \$1,429.02 in the preceding year, and was made up as follows :—

| | | | | | | \$ | c. |
|-----------------------------|----|----|----|----|----|------------|----|
| Sale of Disinfectants .. | .. | .. | .. | .. | .. | 128. | 70 |
| Disinfecting Cesspits .. | .. | .. | .. | .. | .. | 835. | 04 |
| Cleansing Eaves Gutters .. | .. | .. | .. | .. | .. | 14. | 40 |
| Milk Badges .. | .. | .. | .. | .. | .. | 75. | 60 |
| Dairyman's Licenses .. | .. | .. | .. | .. | .. | 25. | 20 |
| Milk Vendor's Licenses .. | .. | .. | .. | .. | .. | 67. | 68 |
| Oyster Vendor's Licenses .. | .. | .. | .. | .. | .. | 6. | 48 |
| Fines .. | .. | .. | .. | .. | .. | 37. | 20 |
| Miscellaneous Receipts .. | .. | .. | .. | .. | .. | 25. | 24 |
| | | | | | | <hr/> | |
| | | | | | | \$1,215.54 | |
| | | | | | | <hr/> | |

The Expenditure amounted to \$30,587.14, compared with \$31,001.91 in the previous year, and was distributed as follows :—

| | | | | | | |
|-------------------|----|----|----|----|----|-------------|
| Staff .. | .. | .. | .. | .. | .. | \$20,246.90 |
| Labour .. | .. | .. | .. | .. | .. | 5,202.69 |
| Materials, &c. .. | .. | .. | .. | .. | .. | 5,137.55 |
| | | | | | | <hr/> |
| | | | | | | \$30,587.14 |
| | | | | | | <hr/> |

Leave of Absence.—Details of leave of absence taken by members of the Staff with the approval of the local authority are as follows :—

(a) *Vacation Leave.*

O. E. Forde, ASSOC.M.R.SAN.I.—Sanitary Inspector—30th January to 4th March.
 J. B. Taylor—Assistant Sanitary Inspector—7th March to 10th April.
 C. C. Assing—Sanitary Inspector—16th April to 20th May.
 H. St. Cyr—Assistant Sanitary Inspector—1st June to 5th July.
 J. A. Wood—Assistant Sanitary Inspector—16th May to June 15th.
 T. Christian—Messenger—16th June to 30th June.
 W. R. Smith—Chief Clerk—21st July to 31st August.
 N. E. Guppy—Sanitary Inspector—1st October, to 4th November.
 J. W. Parris—Sanitary Inspector—21st November to 25th December.
 G. Charles—Sanitary Inspector—24th October to 27th October.

(b) *Sick Leave.*

J. A. Wood—Assistant Sanitary Inspector—17th March to 15th May.
 C. C. Assing—Sanitary Inspector—3rd September to 22nd September.
 N. E. Guppy—Sanitary Inspector—10th September to 19th September.
 J. B. Taylor—Assistant Sanitary Inspector—15th October to 24th October.
 W. G. Williams—Sanitary Inspector—7th November to 23rd November.

CONCLUSION.

Before concluding this report the writer begs leave to place on record his grateful recognition of the willing co-operation of the chief officers and all other grades of the clerical and sanitary staff in the work of the Department, and to bring their efficient services to the favourable notice of the local authority. He is also indebted to Mr. W. R. Smith, Chief Clerk, and Sanitary Inspector J. E. Ferreira, cert.R.san.I., for their valuable assistance in the compilation of the statistics.

I have the honour to be,

Sir,

Your obedient Servant,

GEORGE H. MASSON,
Medical Officer of Health.

Port-of-Spain, Trinidad,
 Public Health Department,
 Town Hall,
 27th March, 1929.

TABLE I.—Comparative Summary of Vital Statistics for the years 1923 to 1928.

| Port-of-Spain. | | 1923. | | 1924. | | 1925. | | 1926. | | 1927. | | 1928. | | Average rate for five preceding years 1923 to 1927. |
|---|----|--------|----------------------------|--------|----------------------------|--------|----------------------------|--------|----------------------------|--------|----------------------------|--------|----------------------------|---|
| | | Number | Rate per 1,000 population. | Number | Rate per 1,000 population. | Number | Rate per 1,000 population. | Number | Rate per 1,000 population. | Number | Rate per 1,000 population. | Number | Rate per 1,000 population. | |
| Total Births | .. | 2,013 | 31.90 | 1,890 | 29.55 | 1,820 | 28.20 | 1,833 | 28.20 | 1,753 | 26.73 | 1,868 | 28.14 | 28.92 |
| Total Deaths | .. | 1,521 | 24.10 | 1,493 | 23.34 | 1,492 | 23.12 | 1,568 | 24.12 | 1,433 | 21.85 | 1,476 | 22.23 | 23.31 |
| Natural increase or decrease | .. | +492 | .. | +397 | .. | +328 | .. | +265 | .. | +320 | .. | +392 | .. | +360 |
| Deaths of Infants under 1 year | .. | 285 | Per 1,000 Births. 141.58 | 278 | Per 1,000 Births. 147.09 | 282 | Per 1,000 Births. 154.95 | 287 | Per 1,000 Births. 156.57 | 236 | Per 1,000 Births. 134.63 | 238 | Per 1,000 Births. 127.41 | 146.96 |
| Deaths from Enteric Fever | .. | 43 | 0.68 | 49 | 0.77 | 20 | 0.31 | 26 | 0.40 | 17 | 0.26 | 14 | 0.21 | 0.48 |
| Do. Pulmonary Tuberculosis | .. | 192 | 3.04 | 162 | 2.53 | 148 | 2.29 | 183 | 2.81 | 138 | 2.10 | 141 | 2.08 | 2.55 |
| Do. Tuberculosis (other forms) | .. | 25 | 0.40 | 25 | 0.39 | 17 | 0.26 | 17 | 0.26 | 9 | 0.14 | 19 | 0.29 | 0.29 |
| Do. Pneumonia and Broncho-Pneumonia | .. | 75 | 1.19 | 50 | 0.78 | 63 | 0.98 | 62 | 0.95 | 41 | 0.63 | 51 | 0.77 | 0.91 |
| Do. Diphtheria | .. | 3 | 0.05 | 2 | 0.03 | 2 | 0.03 | 1 | 0.02 | 2 | 0.03 | 3 | 0.05 | 0.03 |
| Do. Malaria | .. | 30 | 0.48 | 42 | 0.66 | 53 | 0.82 | 67 | 1.03 | 46 | 0.70 | 57 | 0.86 | 0.74 |
| Do. Dysentery | .. | 25 | 0.40 | 42 | 0.66 | 31 | 0.48 | 31 | 0.47 | 27 | 0.41 | 29 | 0.44 | 0.48 |
| Do. Ankylostomiasis | .. | 14 | 0.22 | 15 | 0.23 | 7 | 0.11 | 15 | 0.23 | 8 | 0.12 | 11 | 0.17 | 0.18 |
| Do. Syphilis | .. | 34 | 0.54 | 55 | 0.86 | 80 | 1.24 | 65 | 0.99 | 48 | 0.73 | 31 | 0.47 | 0.87 |
| Do. Influenza | .. | 5 | 0.08 | .. | .. | 2 | 0.03 | .. | .. | 6 | 0.09 | 4 | 0.06 | 0.04 |
| Do. Diarrhoea and Enteritis | .. | 120 | 1.90 | 75 | 1.17 | 71 | 1.10 | 107 | 1.64 | 48 | 0.73 | 63 | 0.95 | 1.31 |
| Do. Bronchitis | .. | 84 | 1.33 | 61 | 0.95 | 83 | 1.29 | 79 | 1.21 | 109 | 1.66 | 71 | 1.07 | 1.29 |
| Do. Cancer and other Malignant Diseases | .. | 53 | 0.84 | 37 | 0.58 | 39 | 0.60 | 48 | 0.73 | 51 | 0.78 | 48 | 0.72 | 0.71 |
| Do. Diseases of Heart and Blood Vessels | .. | 170 | 2.69 | 183 | 2.86 | 190 | 2.94 | 199 | 3.06 | 193 | 2.94 | 214 | 3.22 | 2.90 |
| Do. Bright's Disease and Nephritis | .. | 120 | 1.90 | 98 | 1.53 | 111 | 1.72 | 111 | 1.70 | 99 | 1.51 | 120 | 1.81 | 1.67 |
| Still-Births | .. | 177 | Per 100 Live-births. 8.79 | 182 | Per 100 Live-births. 9.63 | 153 | Per 100 Live-births. 8.41 | 144 | Per 100 Live-births. 7.85 | 134 | Per 100 Live-births. 7.64 | 158 | Per 100 Live-births. 8.46 | 8.46 |

TABLE II.—Showing monthly Births and Birth-rates.

| Months. | | | | | | Males. | Females. | Both Sexes. | Birth-rate per 1,000 population. |
|-----------|----|----|----|----|----|--------|----------|-------------|--|
| January | .. | .. | .. | .. | .. | 80 | 79 | 159 | 28.23 |
| February | .. | .. | .. | .. | .. | 77 | 62 | 139 | 26.42 |
| March | .. | .. | .. | .. | .. | 81 | 79 | 160 | 28.41 |
| April | .. | .. | .. | .. | .. | 71 | 86 | 157 | 28.87 |
| May | .. | .. | .. | .. | .. | 80 | 73 | 153 | 27.16 |
| June | .. | .. | .. | .. | .. | 68 | 90 | 158 | 29.04 |
| July | .. | .. | .. | .. | .. | 88 | 75 | 163 | 28.93 |
| August | .. | .. | .. | .. | .. | 65 | 69 | 134 | 23.77 |
| September | .. | .. | .. | .. | .. | 56 | 81 | 137 | 25.18 |
| October | .. | .. | .. | .. | .. | 81 | 82 | 163 | 28.93 |
| November | .. | .. | .. | .. | .. | 83 | 88 | 171 | 31.43 |
| December | .. | .. | .. | .. | .. | 96 | 78 | 174 | 30.89 |
| Total | .. | .. | .. | .. | .. | 926 | 942 | 1,868 | 28.14 |

TABLE III.—Showing monthly Deaths and Death-rates.

| Months. | | | | | | Males. | Females. | Both Sexes. | Death-rate per 1,000 population. |
|-----------|----|----|----|----|----|--------|----------|-------------|--|
| January | .. | .. | .. | .. | .. | 71 | 70 | 141 | 25.03 |
| February | .. | .. | .. | .. | .. | 58 | 50 | 108 | 20.53 |
| March | .. | .. | .. | .. | .. | 53 | 65 | 118 | 20.95 |
| April | .. | .. | .. | .. | .. | 64 | 54 | 118 | 21.69 |
| May | .. | .. | .. | .. | .. | 78 | 67 | 145 | 25.74 |
| June | .. | .. | .. | .. | .. | 60 | 67 | 127 | 23.34 |
| July | .. | .. | .. | .. | .. | 77 | 63 | 140 | 24.86 |
| August | .. | .. | .. | .. | .. | 64 | 54 | 118 | 20.95 |
| September | .. | .. | .. | .. | .. | 64 | 55 | 119 | 21.87 |
| October | .. | .. | .. | .. | .. | 65 | 56 | 121 | 21.48 |
| November | .. | .. | .. | .. | .. | 57 | 46 | 103 | 18.93 |
| December | .. | .. | .. | .. | .. | 65 | 53 | 118 | 20.95 |
| Total | .. | .. | .. | .. | .. | 776 | 700 | 1,476 | 22.23 |

TABLE IV.—Deaths at different age periods.

| Period, | | | | | | | Males. | Females. | Total both Sexes. |
|--------------|----|----|----|----|----|----|--------|----------|-------------------|
| Under 1 year | .. | .. | .. | .. | .. | .. | 132 | 106 | 238 |
| 1-5 years | .. | .. | .. | .. | .. | .. | 69 | 31 | 100 |
| 6-10 do. | .. | .. | .. | .. | .. | .. | 9 | 5 | 14 |
| 11-15 do. | .. | .. | .. | .. | .. | .. | 8 | 16 | 24 |
| 16-20 do. | .. | .. | .. | .. | .. | .. | 23 | 43 | 66 |
| 21-25 do. | .. | .. | .. | .. | .. | .. | 32 | 28 | 60 |
| 26-30 do. | .. | .. | .. | .. | .. | .. | 36 | 35 | 71 |
| 31-35 do. | .. | .. | .. | .. | .. | .. | 27 | 22 | 49 |
| 36-40 do. | .. | .. | .. | .. | .. | .. | 61 | 49 | 110 |
| 41-45 do. | .. | .. | .. | .. | .. | .. | 50 | 26 | 76 |
| 46-50 do. | .. | .. | .. | .. | .. | .. | 41 | 52 | 93 |
| 51-55 do. | .. | .. | .. | .. | .. | .. | 41 | 31 | 72 |
| 56-60 do. | .. | .. | .. | .. | .. | .. | 57 | 54 | 111 |
| Over 60 | .. | .. | .. | .. | .. | .. | 190 | 202 | 392 |
| Total | .. | .. | .. | .. | .. | .. | 776 | 700 | 1,476 |

TABLE V.—Deaths of Non-residents at Colonial Hospital.

| Diseases. | | | | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Total. |
|----------------------------|----|----|----|----------|-----------|--------|--------|------|-------|-------|---------|------------|----------|-----------|-----------|--------|
| Enteric Fever | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | 1 | 1 | 1 | 2 | 2 | 1 | 10 |
| Pulmonary Tuberculosis | .. | .. | 6 | 7 | 7 | 4 | 8 | 2 | 4 | 2 | 3 | 5 | 2 | 6 | 56 | |
| Tuberculosis (other forms) | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | 3 | 1 | .. | .. | .. | 6 | |
| Pneumonia | .. | .. | .. | .. | 1 | 2 | 2 | .. | 3 | 2 | 2 | 1 | 3 | 1 | 1 | 18 |
| Diphtheria | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | 2 |
| Other causes | .. | .. | .. | 18 | 23 | 27 | 16 | 20 | 24 | 8 | 22 | 15 | 15 | 17 | 23 | 228 |
| Total | .. | .. | .. | 24 | 31 | 38 | 23 | 29 | 29 | 15 | 30 | 21 | 26 | 22 | 32 | 320 |

TABLE VI.—Classification of Causes of Death, 1928.

| | | | | | | | | | |
|--|----|----|----|-----|--|----|----|-------|--|
| 1.—NOTIFIABLE INFECTIOUS DISEASES— | | | | | (c) <i>Diseases of the Digestive Systems—</i> | | | | |
| Enteric Fever | .. | .. | .. | 14 | Diarrhoea and Enteritis | .. | .. | 63 | |
| Diphtheria | .. | .. | .. | 3 | Ankylostomiasis | .. | .. | 11 | |
| Membranous Croup | .. | .. | .. | — | Cirrhosis of Liver | .. | .. | 17 | |
| Pulmonary Tuberculosis | .. | .. | .. | 141 | Other Diseases of the Digestive System.. | .. | .. | 79 | |
| Tuberculosis (other forms) | .. | .. | .. | 19 | | | | | |
| Pneumonia and Broncho-Pneumonia | .. | .. | .. | 51 | (f) <i>Venereal Diseases of the Genito-Urinary System—</i> | | | | |
| Plague | .. | .. | .. | — | Syphilis | .. | .. | 31 | |
| Cholera | .. | .. | .. | — | Other Venereal Diseases | .. | .. | 1 | |
| Small Pox | .. | .. | .. | — | | | | | |
| Chicken Pox | .. | .. | .. | — | (g) <i>Non-Venereal Diseases of the Genito-Urinary System—</i> | | | | |
| Yellow Fever | .. | .. | .. | — | Bright's Disease | .. | .. | 17 | |
| | | | | | Nephritis | .. | .. | 103 | |
| | | | | | Other Non-Venereal Diseases | .. | .. | 38 | |
| 2.—OTHER DISEASES— | | | | | | | | | |
| (a) <i>General Diseases—</i> | | | | | (h) <i>Diseases of the Puerperal State—</i> | | | | |
| Malaria | .. | .. | .. | 57 | Puerperal Fever | .. | .. | 1 | |
| Whooping Cough | .. | .. | .. | 2 | Puerperal Eclampsia | .. | .. | — | |
| Influenza | .. | .. | .. | 4 | Puerperal Septicaemia | .. | .. | 1 | |
| Dysentery | .. | .. | .. | 29 | Other Puerperal Diseases | .. | .. | 9 | |
| Cancer and other Malignant Diseases | .. | .. | .. | 48 | | | | | |
| Blackwater Fever | .. | .. | .. | — | (i) <i>Diseases of Early Infancy</i> | | | | |
| Beri-Beri | .. | .. | .. | — | | .. | .. | 149 | |
| Other General Diseases | .. | .. | .. | 35 | (j) <i>Old Age</i> | | | | |
| | | | | | | .. | .. | 109 | |
| (b) <i>Diseases of the Nervous System and the Organs of Special Sense—</i> | | | | | (k) <i>Affections produced by External Causes—</i> | | | | |
| Simple Meningitis | .. | .. | .. | — | Burns | .. | .. | 10 | |
| Cerebral Haemorrhage | .. | .. | .. | 51 | Accidents and Injuries | .. | .. | 12 | |
| Apoplexy | .. | .. | .. | 2 | | | | | |
| Convulsions of Children under 5 years of age | .. | .. | .. | 3 | (l) <i>Other causes of Death</i> | | | | |
| Other Diseases of the Nervous System | .. | .. | .. | 56 | | .. | .. | 16 | |
| (c) <i>Diseases of the Circulatory System—</i> | | | | | Total | .. | .. | 1,476 | |
| Cardiac and Vascular Diseases | .. | .. | .. | 214 | | | | | |
| (d) <i>Disease of the Respiratory System—</i> | | | | | | | | | |
| Bronchitis | .. | .. | .. | 71 | | | | | |
| Other Diseases of the Respiratory System | .. | .. | .. | 9 | | | | | |

TABLE VII.—Showing monthly Still-births and rates per 100 Live-births.

| Months. | | | | | No. of Still-births. | Rates per 100 Live-births. |
|-----------|----|----|----|----|----------------------|----------------------------|
| January | .. | .. | .. | .. | 11 | 6.92 |
| February | .. | .. | .. | .. | 10 | 7.19 |
| March | .. | .. | .. | .. | 11 | 6.87 |
| April | .. | .. | .. | .. | 13 | 8.28 |
| May | .. | .. | .. | .. | 16 | 10.46 |
| June | .. | .. | .. | .. | 9 | 5.70 |
| July | .. | .. | .. | .. | 20 | 12.27 |
| August | .. | .. | .. | .. | 15 | 11.19 |
| September | .. | .. | .. | .. | 13 | 9.49 |
| October | .. | .. | .. | .. | 16 | 9.82 |
| November | .. | .. | .. | .. | 12 | 7.02 |
| December | .. | .. | .. | .. | 12 | 6.90 |
| Total | .. | .. | .. | .. | 158 | 8.46 |

TABLE VIII.—Showing causes of deaths of Infants under 1 year.⁵

| Diseases. | 1927. | 1928. | Diseases. | 1927. | 1928. |
|--|-------|-------|--|-------|-------|
| Abscess of Knee | 1 | .. | Inflammation and Prolapse of Rectum .. | .. | 1 |
| Asphyxia Neonatorum | 3 | 2 | Influenza | 1 | .. |
| Atelectasis | .. | 1 | Intestinal Obstruction | .. | 1 |
| Atrophy | 1 | 1 | Intussusception | .. | 1 |
| Bronchitis | 24 | 11 | Haemorrhage from Umbilical cord .. | 1 | 2 |
| Cerebral Congestion | 1 | 1 | Jaundice | .. | 1 |
| Cerebral Hemorrhage | 1 | .. | Malaria | 9 | 5 |
| Colic | 1 | 2 | Malnutrition | 14 | 15 |
| Colitis | 8 | 6 | Marasmus | 7 | 17 |
| Congenital Debility | 38 | 32 | Mastoid Disease | 1 | .. |
| Congenital Heart Disease | 1 | 1 | Meningitis | 3 | 3 |
| Congenital Syphilis | 15 | 7 | Miliary Tuberculosis | 1 | 2 |
| Convulsions | 6 | .. | Nephritis | 1 | 1 |
| Dentition | 2 | 3 | Pneumonia | 8 | 10 |
| Diarrhoea | .. | 5 | Prematurity | 50 | 51 |
| Diphtheria | 1 | .. | Pulmonary Congestion | 1 | 3 |
| Dysentery | 1 | 5 | Stenosis of the Stomach | .. | 1 |
| Gastric Catarrh | 1 | .. | Suffocation | 1 | .. |
| Gastritis | 1 | 3 | Tetanus Neonatorum | 2 | .. |
| Gastro-Enteritis and Enteritis | 29 | 39 | Vermes | .. | 1 |
| Hydrocephalus | .. | 1 | Whooping Cough | .. | 2 |
| Icterus Neonatorum | 1 | 1 | Total | 236 | 238 |

TABLE IX.—Showing Deaths of children from 1-5 years.

| Diseases. | | | | | | | Males. | Females. | Total— Both Sexes. |
|-------------------------|----|----|----|----|----|----|--------|----------|-----------------------|
| Anaemia | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Atrophy | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Bronchitis | .. | .. | .. | .. | .. | .. | 4 | .. | 4 |
| Colitis | .. | .. | .. | .. | .. | .. | 2 | .. | 2 |
| Congenital Syphilis | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Convulsions | .. | .. | .. | .. | .. | .. | 4 | 1 | 5 |
| Diarrhoea | .. | .. | .. | .. | .. | .. | 1 | 2 | 3 |
| Diphtheria | .. | .. | .. | .. | .. | .. | 2 | .. | 2 |
| Dysentery | .. | .. | .. | .. | .. | .. | 4 | 2 | 6 |
| Enteric Fever | .. | .. | .. | .. | .. | .. | 1 | 1 | 2 |
| Gastritis | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Gastro-Enteritis | .. | .. | .. | .. | .. | .. | 10 | 6 | 16 |
| Haemorrhage from fall | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Influenza | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Intestinal Intoxication | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Intussusception | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Malaria | .. | .. | .. | .. | .. | .. | 5 | 5 | 10 |
| Malnutrition | .. | .. | .. | .. | .. | .. | 6 | 4 | 10 |
| Marasmus | .. | .. | .. | .. | .. | .. | 4 | 4 | 8 |
| Mastoiditis | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Meningeal Haemorrhage | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Meningitis | .. | .. | .. | .. | .. | .. | 2 | .. | 2 |
| Miliary Tuberculosis | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Pleurisy | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Pneumonia | .. | .. | .. | .. | .. | .. | 9 | 1 | 10 |
| Pulmonary Congestion | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Rickets | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Scorpion Sting | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Septicaemia | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| Shock from scalding | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Spinal Tuberculosis | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Ulcerative Stomatitis | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Worms | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Total | .. | .. | .. | .. | .. | .. | 69 | 31 | 100 |

TABLE X.—Showing Infectious Diseases notified each month under Public Health Ordinance.

| Diseases. | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Total. |
|----------------------------------|----------|-----------|--------|--------|------|-------|-------|---------|------------|----------|-----------|-----------|--------|
| Diphtheria | 2 | .. | 2 | 1 | 3 | 1 | 2 | 3 | .. | 4 | .. | 1 | 19 |
| Enteric Fever | 6 | 3 | 5 | 3 | 4 | 1 | 7 | 6 | 2 | 12 | 4 | 1 | 54 |
| Pulmonary Tuberculosis | 24 | 15 | 12 | 13 | 8 | 13 | 13 | 5 | 14 | 12 | 18 | 5 | 152 |
| Tuberculosis (other forms) | 2 | 2 | 1 | 3 | 2 | .. | 3 | 1 | 1 | .. | .. | 1 | 16 |
| Pneumonia | 3 | 4 | 6 | 3 | 5 | 5 | 10 | 10 | 7 | 3 | 2 | 2 | 60 |
| Ophthalmia Neonatorum | 4 | 2 | 4 | 3 | 3 | 1 | 3 | 2 | 3 | 2 | 1 | 3 | 31 |
| Chicken Pox | 1 | .. | 1 | 3 | 2 | 4 | 6 | 3 | .. | .. | 1 | 2 | 23 |
| Total | 42 | 26 | 31 | 29 | 27 | 25 | 44 | 30 | 27 | 33 | 26 | 15 | 355 |

TABLE XI.—Showing Deaths from Notifiable Infectious Diseases.

| Diseases. | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Total. |
|----------------------------------|----------|-----------|--------|--------|------|-------|-------|---------|------------|----------|-----------|-----------|--------|
| Diphtheria | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 2 | .. | .. | 3 |
| Enteric Fever | 2 | 2 | 2 | 1 | 1 | .. | .. | 1 | 2 | 3 | .. | .. | 14 |
| Pulmonary Tuberculosis | 19 | 8 | 14 | 8 | 16 | 15 | 8 | 7 | 14 | 14 | 10 | 8 | 141 |
| Tuberculosis (other forms) | 1 | 1 | .. | 5 | 3 | 4 | 2 | .. | 1 | .. | .. | 2 | 19 |
| Pneumonia | 1 | 7 | 4 | 7 | 8 | 1 | 7 | 2 | 8 | 3 | .. | 3 | 51 |
| Ophthalmia Neonatorum | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Chicken Pox | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Total | 23 | 18 | 20 | 21 | 28 | 20 | 17 | 11 | 25 | 22 | 10 | 13 | 228 |

TABLE XII.—Distribution of Cases and Deaths from Notifiable Infectious Diseases.

| Population :— | CITY. 27,030 | | ST. CLAIR. 1,246 | | EAST DRY RIVER. 16,061 | | BELMONT. 12,696 | | WOODBROOK. 9,350. | |
|----------------------------------|--------------------|---------|---------------------|---------|------------------------------|---------|--------------------|---------|----------------------|---------|
| Diseases. | Cases Notified. | Deaths. | Cases Notified. | Deaths. | Cases Notified. | Deaths. | Cases Notified. | Deaths. | Cases Notified. | Deaths. |
| Diphtheria | 10 | 2 | 1 | .. | 3 | 1 | 5 | .. | .. | .. |
| Membranous Croup | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Enteric Fever | 19 | 6 | 1 | .. | 16 | 4 | 13 | 2 | 5 | 2 |
| Plague | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Cholera | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Yellow Fever | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Small Pox | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Pulmonary Tuberculosis | 64 | 58 | .. | .. | 47 | 45 | 24 | 22 | 17 | 16 |
| Tuberculosis (other forms) | 5 | 6 | .. | .. | 9 | 10 | 2 | 2 | .. | 1 |
| Pneumonia | 26 | 24 | .. | .. | 16 | 11 | 12 | 11 | 6 | 5 |
| Ophthalmia Neonatorum | 13 | .. | .. | .. | 13 | .. | 4 | .. | 1 | .. |
| Chicken Pox | 11 | .. | .. | .. | 7 | .. | 4 | .. | 1 | .. |
| Total | 148 | 96 | 2 | .. | 111 | 71 | 64 | 37 | 30 | 24 |

TABLE XIII.—Showing Deaths in Hospital from Notifiable Infectious Diseases.

| Diseases. | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Total |
|----------------------------------|----------|-----------|--------|--------|------|-------|-------|---------|------------|----------|-----------|-----------|-------|
| Enteric Fever | 1 | 2 | 2 | 1 | 1 | .. | .. | 1 | 1 | 2 | .. | .. | 11 |
| Pulmonary Tuberculosis | 7 | 8 | 9 | 5 | 9 | 10 | 5 | 2 | 5 | 7 | 5 | 5 | 77 |
| Tuberculosis (other forms) | 1 | 1 | .. | 5 | 2 | 4 | .. | .. | 1 | .. | .. | 1 | 15 |
| Pneumonia | .. | 2 | 3 | 1 | 5 | 1 | 4 | .. | 3 | 2 | .. | 2 | 23 |
| Diphtheria | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 1 |
| Total | 9 | 13 | 14 | 12 | 17 | 15 | 9 | 4 | 10 | 11 | 5 | 8 | 127 |

TABLE XIV.—Comparing Deaths in Hospital with Deaths at Home from Notifiable Infectious Diseases.

| Diseases. | Died at Home. | Died in Hospital. | Total Deaths. | Percentage of cases isolated in Hospital before death. |
|----------------------------------|---------------|-------------------|---------------|--|
| Diphtheria | 2 | 1 | 3 | 33.3 |
| Enteric Fever | 3 | 11 | 14 | 78.5 |
| Pulmonary Tuberculosis | 64 | 77 | 141 | 54.6 |
| Tuberculosis (other forms) | 4 | 15 | 19 | 78.9 |
| Pneumonia | 28 | 23 | 51 | 45.1 |
| Total | 101 | 127 | 228 | 55.7 |

TABLE XV.—Showing Deaths from Non-notifiable Infectious Diseases.

| Diseases. | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Total. |
|-----------------------|----------|-----------|--------|--------|------|-------|-------|---------|------------|----------|-----------|-----------|--------|
| Malaria | 1 | 2 | 1 | 9 | 9 | 7 | 4 | 7 | 3 | 4 | 1 | 9 | 57 |
| Whooping Cough | .. | .. | .. | .. | 1 | .. | 1 | .. | .. | .. | .. | .. | 2 |
| Influenza | .. | .. | .. | .. | 1 | 1 | .. | 1 | .. | 1 | .. | .. | 4 |
| Dysentery | 7 | 1 | .. | .. | 2 | 1 | 5 | 6 | 2 | 2 | 2 | 1 | 29 |
| Ankylostomiasis | 4 | 1 | 2 | .. | .. | .. | .. | 1 | .. | 2 | .. | 1 | 11 |
| Syphilis | 5 | 2 | 2 | 3 | 3 | 1 | 2 | 3 | 1 | 4 | 2 | 3 | 31 |
| Puerperal Fever | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Total | 17 | 6 | 5 | 12 | 16 | 10 | 12 | 18 | 6 | 13 | 6 | 14 | 135 |

TABLE XVI.—Showing Deaths in Hospital from Non-notifiable Infectious Diseases.

| Diseases. | Jan. | Feb. | Mar. | Apl. | May | June | July | Aug. | Sep. | Oct. | Nov. | Dec. | Total. |
|-----------------------|------|------|------|------|-----|------|------|------|------|------|------|------|--------|
| Malaria | .. | I | I | 3 | 3 | 2 | I | 2 | I | I | .. | 2 | 17 |
| Whooping Cough | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Influenza | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Dysentery | .. | I | I | .. | .. | .. | .. | 2 | .. | .. | .. | I | 5 |
| Ankylostomiasis | .. | 2 | .. | 2 | .. | .. | .. | I | .. | .. | .. | I | 6 |
| Syphilis | .. | I | I | .. | I | 2 | I | .. | .. | 2 | I | I | 10 |
| Puerperal Fever | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Total | 4 | 3 | 3 | 4 | 5 | 3 | I | 5 | I | 3 | I | 5 | 38 |

TABLE XVII.—Comparing Deaths in Hospital with Deaths at Home from Non-Notifiable Infectious Diseases.

| Diseases. | Died at Home. | Died in Hospital. | Total Deaths. | Percentage of cases isolated in Hospital before death. |
|-----------------------|---------------|-------------------|---------------|--|
| Malaria | 40 | 17 | 57 | 29.8 |
| Whooping Cough | 2 | .. | 2 | .. |
| Influenza | 4 | .. | 4 | .. |
| Dysentery | 24 | 5 | 29 | 20.8 |
| Ankylostomiasis | 5 | 6 | 11 | 54.5 |
| Syphilis | 21 | 10 | 31 | 32.2 |
| Puerperal Fever | I | .. | I | .. |
| Total | 97 | 38 | 135 | 28.1 |

TABLE XVIII.—Deaths from Diarrhoea and Enteritis.

| Jan. | Feb. | Mar. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
|------|------|------|--------|------|-------|-------|------|-------|------|------|------|--------|
| 4 | 8 | 2 | 4 | 2 | 11 | 16 | 6 | .. | 6 | 2 | 2 | 63 |

APPENDIX B.—SANITARY CONDITIONS.**TABLE XIX.—Monthly Rainfall from three Stations in Port-of-Spain with Average for 1928.**

| Stations. | Jan. | Feb. | Mar. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total for year. |
|----------------------------|------|------|------|--------|------|-------|-------|-------|-------|------|------|------|-----------------|
| St. Clair Expt. Station .. | 4.22 | .69 | 2.31 | 2.02 | .67 | 5.75 | 8.07 | 8.66 | 7.36 | 9.13 | 8.42 | 5.94 | 63.24 |
| Colonial Hospital | 2.92 | .29 | 1.49 | .68 | .24 | 3.85 | 5.46 | 11.09 | 6.54 | 8.93 | 8.50 | 6.14 | 56.13 |
| Constab. Headquarters .. | 5.06 | 1.09 | 1.23 | .57 | .30 | 5.00 | 6.28 | 12.33 | 7.18 | 7.80 | 6.42 | 6.04 | 59.30 |
| Average Rainfall .. | 4.07 | .69 | 1.68 | 1.09 | .40 | 4.87 | 6.60 | 10.69 | 7.03 | 8.62 | 7.78 | 6.04 | 59.56 |

TABLE XX.—Monthly Rainfall from three Stations in Port-of-Spain with Average for 1927.

| Stations. | Jan. | Feb. | Mar. | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Total for year. |
|----------------------------|------|------|------|--------|------|-------|-------|-------|-------|------|------|------|-----------------|
| St. Clair Expt. Station .. | 4.71 | 4.44 | 3.62 | 5.04 | 7.15 | 6.95 | 9.40 | 11.67 | 9.11 | 6.13 | 5.64 | 7.21 | 81.07 |
| Colonial Hospital .. | 5.05 | 4.48 | 2.25 | 5.03 | 5.42 | 5.72 | 7.97 | 9.05 | 9.41 | .. | 5.15 | 6.76 | 66.29 |
| Constab. Headquarters .. | 5.34 | 4.24 | 3.42 | 6.43 | 5.11 | 7.75 | 9.82 | 8.72 | 9.02 | 4.74 | 5.57 | 6.48 | 76.64 |
| Average Rainfall .. | 5.03 | 4.39 | 3.10 | 5.50 | 5.89 | 6.81 | 9.06 | 9.81 | 9.18 | 3.62 | 5.45 | 6.82 | 74.66 |

TABLE A.—Inspection of Premises, &c. by Sanitary Inspectors.

| MONTHS. | | Jan. | Feb. | Mar. | April. | May. | June. | July. | August. | Sept. | Oct. | Nov. | Dec. | Total. |
|--|----|-------|--------|-------|--------|--------|-------|-------|---------|-------|-------|--------|-------|--------------------|
| Visits to dwelling houses and other premises | | 9,101 | 10,267 | 8,452 | 8,904 | 10,190 | 8,310 | 9,184 | 8,609 | 8,678 | 8,083 | 10,056 | 8,914 | 108,748 |
| No. of Shops, Stores, Bakehouses, &c., inspected | | Jan. | Feb. | Mar. | April. | May. | June. | July. | August. | Sept. | Oct. | Nov. | Dec. | Average per month. |
| Provision and Meat Shops | .. | 186 | 185 | 187 | 158 | 176 | 138 | 181 | 188 | 183 | 137 | 189 | 169 | 173 |
| Provision Stores .. | .. | 21 | 31 | 25 | 21 | 26 | 26 | 31 | 35 | 26 | 18 | 26 | 26 | 26 |
| Restaurants and Cookshops | .. | 39 | 24 | 38 | 41 | 42 | 38 | 38 | 46 | 23 | 35 | 32 | 40 | 36 |
| Common Lodging Houses .. | .. | 14 | 15 | 6 | 11 | 11 | 19 | 19 | 11 | 5 | 13 | 14 | 12 | 13 |
| Dairies and Cowsheds | .. | 44 | 53 | 46 | 16 | 40 | 56 | 44 | 34 | 32 | 34 | 51 | 28 | 40 |
| Stables .. | .. | 78 | 81 | 63 | 38 | 46 | 83 | 79 | 48 | 46 | 40 | 33 | 55 | 58 |
| Schools .. | .. | 20 | 28 | 28 | 19 | 21 | 31 | 22 | 16 | 31 | 19 | 27 | 32 | 25 |
| Dyeworks | .. | 6 | 6 | 1 | 8 | 8 | 4 | 6 | 6 | 6 | 5 | 6 | 5 | 6 |
| Barber Shops | .. | 37 | 22 | 28 | 35 | 24 | 23 | 20 | 46 | 14 | 16 | 29 | 26 | 27 |
| Aerated Water Factories .. | .. | 17 | 9 | 13 | 14 | 13 | 11 | 13 | 10 | 10 | 11 | 11 | 9 | 12 |
| Other Factories .. | .. | 31 | 23 | 28 | 31 | 34 | 26 | 28 | 21 | 17 | 28 | 23 | 30 | 27 |
| Cake and Ice Cream Shops | .. | 145 | 169 | 157 | 143 | 180 | 112 | 150 | 145 | 177 | 104 | 147 | 140 | 147 |
| Fish Hawker's Trays | .. | 75 | 102 | 105 | 68 | 87 | 48 | 89 | 69 | 59 | 73 | 101 | 109 | 82 |
| Bakehouses | .. | 33 | 16 | 50 | 29 | 39 | 41 | 25 | 18 | 31 | 26 | 40 | 37 | 32 |
| Bread Depots | .. | 9 | 8 | 6 | 5 | 7 | 5 | 5 | 1 | 8 | 1 | 3 | 6 | 5 |
| Ice Cream Carts and Pails | .. | 33 | 41 | 43 | 20 | 32 | 25 | 32 | 24 | 28 | 22 | 27 | 26 | 29 |
| Cake and other Food Hucksters' Trays | .. | 80 | 50 | 77 | 22 | 129 | 116 | 55 | 66 | 45 | 50 | 102 | 57 | 71 |
| Plantain Carts | .. | 13 | 14 | 18 | 6 | 6 | 2 | 2 | .. | .. | 2 | 8 | 6 | 6 |
| Bread Carts and Baskets .. | .. | 28 | 37 | 39 | 50 | 23 | 32 | 17 | 10 | 6 | 5 | 4 | 18 | 22 |
| Boats .. | .. | 39 | 24 | 38 | 4 | 22 | 23 | 32 | 8 | 30 | 18 | 30 | 37 | 25 |

TABLE A.—Inspection of Premises, &c., by Sanitary Inspectors.—Continued.

| No. of Shops, Stores, Bakehouses, &c., inspected | Jan. | Feb. | Mar. | April. | May. | June. | July. | August. | Sept. | Oct. | Nov. | Dec. | Average per month. |
|--|------|------|------|--------|------|-------|-------|---------|-------|------|------|------|--------------------|
| Spirit Shops .. | 44 | 44 | 44 | 41 | 35 | 41 | 41 | 47 | 42 | 40 | 40 | 41 | 42 |
| Fry Shops .. | 24 | 30 | 29 | 18 | 13 | 12 | 21 | 16 | 17 | 6 | 28 | 10 | 19 |
| Hotels .. | 24 | 29 | 28 | 17 | 15 | 23 | 24 | 16 | 20 | 21 | 29 | 18 | 22 |
| Markets... | 5 | 4 | 5 | 5 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 6 | 5 |
| Laundries .. | 9 | 17 | 4 | 11 | 7 | 9 | 14 | 13 | 11 | 9 | 16 | 7 | 11 |
| Tanneries .. | 11 | 11 | 10 | 10 | 9 | 10 | 9 | 9 | 10 | 11 | 11 | 13 | 10 |
| Garages .. | 50 | 49 | 24 | 31 | 40 | 35 | 37 | 32 | 31 | 33 | 17 | 33 | 34 |
| Sweet Drink Carts .. | 64 | 58 | 34 | 13 | 10 | 24 | 27 | 36 | 25 | 19 | 20 | 22 | 29 |
| Public Urinals .. | 7 | 7 | 5 | 5 | 4 | 8 | 7 | 5 | 7 | 7 | 7 | 6 | 6 |
| Oyster Vendors' Baskets .. | .. | 1 | 1 | .. | 2 | .. | .. | .. | .. | .. | .. | .. | 1 |
| Breakfast Sheds .. | .. | 1 | 1 | .. | 2 | 2 | 1 | .. | 1 | 1 | 1 | 1 | 1 |
| Soap Factories .. | .. | .. | 1 | 2 | 2 | 2 | .. | .. | .. | .. | .. | .. | 1 |
| Theatres .. | .. | .. | 1 | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | 1 |
| Vegetable and Fruit Shops .. | .. | .. | 9 | 6 | 10 | .. | .. | .. | .. | .. | .. | .. | 2 |
| Goat Pens .. | .. | .. | 20 | 27 | 14 | 9 | 5 | .. | .. | .. | .. | .. | 6 |
| Milk Vendors' utensils .. | .. | .. | .. | .. | 45 | 23 | 14 | .. | .. | .. | .. | .. | 7 |
| Lunch Rooms .. | .. | .. | .. | .. | 2 | 2 | .. | .. | 3 | .. | 3 | .. | 1 |
| Coffee Shops .. | .. | .. | .. | .. | 2 | 1 | .. | .. | .. | .. | .. | .. | 1 |
| Ship-yards .. | .. | .. | .. | .. | .. | .. | .. | .. | 7 | .. | .. | .. | 1 |
| Match Factories .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 |

TABLE B.—Results of Notices and Verbal Directions.

| | | | |
|--|-------|---|-----|
| Yards paved | 11 | Spirit shops painted | 13 |
| Yard pavements repaired | 81 | Parlours painted | 39 |
| Damp or swampy yards filled in | 360 | Breweries painted | 1 |
| Yards cleaned | 4,656 | Barber shops painted | 11 |
| Drains constructed | 99 | Factories painted | 1 |
| Drains repaired | 355 | Barracks painted | 5 |
| Drains cleaned | 2,862 | Aerated Water Factories painted | 1 |
| Washing Troughs cleaned | 257 | Fry shops painted | 2 |
| Washing Platforms cleaned | 424 | Cook shops painted | 4 |
| Washing Platforms repaired | 4 | Bread carts painted | 33 |
| Sinks cleaned | 633 | Schools painted | 1 |
| Gullies cleaned | 352 | Spirit Factories painted | 1 |
| Lavatories cleaned | 19 | Provision stores painted | 2 |
| Sewer Basins cleaned | 1,462 | Concrete floor of retail shops repaired | 24 |
| Sewer Basins installed | 17 | Concrete floor of kitchens repaired | 1 |
| Urinals cleaned | 114 | Concrete floor of cowsheds repaired | 8 |
| Sinks constructed | 1 | Concrete floor of bathrooms repaired | 3 |
| Privies repaired | 718 | Concrete floor of parlours repaired | 9 |
| Privies made fly proof | 338 | Concrete floor of stables repaired | 10 |
| New Privies built | 139 | Concrete floor of bakehouses repaired | 7 |
| New Cesspits constructed | 127 | Concrete floor of tanneries repaired | 2 |
| Cesspits repaired | 302 | Provision stores repaired | 1 |
| Cesspits emptied | 1,397 | Concrete wall of stables repaired | 1 |
| Cesspits oiled (paid for) | 2,393 | Bread carts repaired | 16 |
| Accumulations of manure removed | 273 | Restaurants repaired | 3 |
| Rat holes stopped | 164 | Cowsheds cobwebbed | 3 |
| Sanitary dustbins provided | 1,080 | Stables cobwebbed | 4 |
| Dustbins repaired | 579 | Retail shops cobwebbed | 241 |
| Dustbins cleaned and disinfected | 1,581 | Parlours cobwebbed | 121 |
| Uncovered dustbins covered | 796 | Barracks cobwebbed | 71 |
| Flush Tanks installed | 43 | Cook shops cobwebbed | 22 |
| Trees trimmed or cut down | 196 | Bakehouses cobwebbed | 3 |
| Premises cleared of bush | 914 | Spirit shops cobwebbed | 31 |
| Barracks repaired | 7 | Provision stores cobwebbed | 59 |
| Houses ventilated | 33 | Barber shops cobwebbed | 2 |
| Roofs closeboarded | 13 | Cowsheds scrubbed | 1 |
| Retail shops painted | 121 | Bakehouses scrubbed | 19 |
| Privies painted | 1 | Retail shops scrubbed | 37 |
| Restaurants painted | 6 | Cook shops scrubbed | 17 |

TABLE B.—Results of Notices and Verbal Directions.—Continued.

| | | | |
|--|-----|---------------------------|----|
| Parlours scrubbed | 144 | Stables scrubbed | 10 |
| Barber's shop floors scrubbed | 9 | Tanneries scrubbed | 1 |
| Spirit shop floors scrubbed | 35 | Dairies scrubbed | 7 |
| Aerated Water Factories scrubbed | 9 | Dairies cleaned | 3 |
| Hotel floors scrubbed | 18 | Bathrooms built | 1 |
| Restaurant floors scrubbed | 18 | Foodstuffs screened | 27 |

DISINFECTION.**TABLE C.—Premises disinfected for Infectious Diseases and Vermin.**

| Diseases. | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Total. |
|--------------------------------------|----------|-----------|--------|--------|------|-------|-------|---------|------------|----------|-----------|-----------|--------|
| Tuberculosis | 25 | 13 | 12 | 15 | 15 | 15 | 18 | 10 | 18 | 17 | 16 | 11 | 185 |
| Enteric Fever | 7 | 6 | 7 | 5 | 4 | 1 | 9 | 5 | 2 | 6 | 4 | 4 | 60 |
| Pneumonia | 1 | 4 | 5 | 3 | 4 | 5 | 9 | 9 | 6 | 2 | 3 | 2 | 53 |
| Diphtheria | 2 | .. | 2 | 1 | 3 | 2 | 2 | 3 | .. | 4 | .. | 1 | 20 |
| Leprosy | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 |
| Chicken Pox | 1 | 1 | 1 | .. | 2 | 3 | 5 | 2 | 1 | 1 | 1 | 1 | 19 |
| Measles | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Ophthalmia Neonatorum | 1 | 2 | 3 | 1 | 4 | 1 | 3 | 1 | 2 | 1 | 1 | 1 | 21 |
| Total Infectious Diseases | 38 | 26 | 30 | 25 | 32 | 27 | 46 | 30 | 29 | 31 | 25 | 20 | 359 |
| Vermin (Common Lodging Houses) | 60 | 59 | 64 | 57 | 61 | 43 | 64 | 64 | 57 | 43 | 65 | 53 | 690 |

TABLE D.—Railway Coaches Disinfected.

| Diseases. | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Total. |
|--------------------|----------|-----------|--------|--------|------|-------|-------|---------|------------|----------|-----------|-----------|--------|
| Yaws | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Leprosy | .. | .. | 2 | 2 | 1 | 3 | 2 | 2 | 5 | 7 | 2 | .. | 26 |
| Tuberculosis | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

TABLE E.—Cesspits sprayed with Crude and Distillate Oil (Free for infectious disease).

| Disease. | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Total. |
|---------------------|----------|-----------|--------|--------|------|-------|-------|---------|------------|----------|-----------|-----------|--------|
| Enteric Fever | 309 | 421 | 1,223 | 1,044 | 548 | 429 | 577 | 488 | 857 | 1,026 | 657 | 377 | 7,956 |

TABLE F.—Limewashing.

| Premises and places limewashed. | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Total. |
|---------------------------------|----------|-----------|--------|--------|------|-------|-------|---------|------------|----------|-----------|-----------|--------|
| Common Lodging Houses | 1 | 1 | 1 | 1 | 1 | 1 | 2 | .. | 1 | 1 | 4 | 3 | 17 |
| Privies | 95 | 89 | 72 | 81 | 81 | 58 | 75 | 49 | 60 | 85 | 82 | 97 | 924 |
| Cowsheds | 2 | .. | 1 | 1 | 5 | 16 | .. | .. | 2 | 3 | 2 | 5 | 37 |
| Bakehouses | 2 | 2 | 5 | 3 | 4 | 2 | 2 | .. | .. | .. | 3 | 2 | 25 |
| Stables | 4 | .. | 3 | .. | 5 | 7 | .. | .. | 2 | 4 | 2 | 2 | 29 |
| Kitchens | 3 | .. | 2 | .. | 2 | 1 | 4 | 1 | .. | .. | 4 | 5 | 22 |
| Barracks | 16 | 9 | 7 | 1 | 6 | 5 | 8 | 8 | 10 | 3 | 14 | 32 | 119 |
| Restaurants | 4 | 2 | 2 | .. | .. | .. | .. | .. | .. | .. | 3 | .. | 11 |
| Parlours | .. | 3 | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | 5 |
| Provisions Stores | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 |
| Breakfast sheds | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 |
| Cookshops | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 |
| Retail shops | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 1 | 3 | 4 | 9 |
| Soap Factories | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 |
| Aerated Water Factories | .. | .. | .. | 2 | .. | .. | .. | .. | .. | .. | .. | .. | 2 |
| Tanneries | .. | .. | .. | .. | 3 | 4 | 1 | .. | .. | .. | .. | .. | 8 |
| Goat Pens | .. | .. | .. | .. | .. | 2 | .. | .. | .. | .. | .. | .. | 2 |
| Fry Shops | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 1 | 4 |
| Totals | 127 | 108 | 96 | 89 | 107 | 96 | 92 | 58 | 75 | 97 | 122 | 151 | 1,218 |

UNSOOUND FOOD.

TABLE C.—Foodstuffs seized and destroyed under the Public Health Ordinance, Cap. 98.

| Articles. | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Total. |
|----------------------|----------|-----------|--------|--------|------|-------|-------|---------|------------|----------|-----------|-----------|--------|
| Sardines—Tins | .. | 25 | .. | .. | .. | .. | .. | .. | .. | .. | 572 | .. | 597 |
| Herrings—Boxes | .. | .. | .. | .. | 212 | .. | .. | .. | .. | .. | .. | .. | 212 |

ANTI-PLAGUE MEASURES.

TABLE H.—Destruction of Rats and Mice.

| | Jan. | Feb. | Mar. | April. | May. | June. | July. | August. | Sept. | Oct. | Nov. | Dec. | Total. |
|---------------------------|------|------|------|--------|------|-------|-------|---------|-------|------|------|------|--------|
| Rats caught by Gangs | 549 | 504 | 435 | 450 | 531 | 464 | 551 | 494 | 499 | 492 | 469 | 413 | 5,851 |
| Rats bought | 83 | 137 | 92 | 118 | 104 | 85 | 156 | 124 | 120 | 71 | 100 | 81 | 1,271 |
| Total Rats destroyed | 632 | 641 | 527 | 568 | 635 | 549 | 707 | 618 | 619 | 563 | 569 | 494 | 7,122 |
| Mice caught and destroyed | 110 | 106 | 111 | 90 | 93 | 68 | 86 | 17 | 20 | 31 | 52 | 43 | 827 |

TABLE J.—Examination of Rats by Government Bacteriologist.

| | Jan. | Feb. | Mar. | April. | May. | June. | July. | August. | Sept. | Oct. | Nov. | Dec. | Total. |
|---------------------------------|------|------|------|--------|------|-------|-------|---------|-------|------|------|------|--------|
| Rats examined for Plague | 627 | 636 | 527 | 546 | 612 | 547 | 679 | 588 | 586 | 562 | 569 | 493 | 6,972 |
| Rats found infected with Plague | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Immature rats not examined | 5 | 5 | .. | 22 | 23 | 2 | 28 | 30 | 33 | 1 | .. | 1 | 150 |

ANTI-MOSQUITO WORK.

TABLE K.—Inspection of Eaves Gutters, &c.

| | Jan. | Feb. | Mar. | April. | May. | June. | July. | August. | Sept. | Oct. | Nov. | Dec. | Total. |
|---|-------|-------|-------|--------|-------|-------|-------|---------|-------|-------|-------|-------|--------|
| Number of inspections and re-inspections of premises | 1,469 | 1,358 | 1,568 | 1,265 | 1,429 | 1,356 | 1,413 | 2,011 | 3,050 | 2,548 | 2,908 | 2,856 | 23,231 |
| Occasions found in good order | 1,262 | 1,227 | 1,436 | 1,164 | 1,347 | 1,246 | 1,287 | 1,855 | 2,710 | 2,310 | 2,652 | 2,655 | 21,151 |
| Defective Eaves Gutters | 207 | 131 | 132 | 101 | 82 | 110 | 126 | 156 | 340 | 238 | 256 | 201 | 2,080 |
| Defective Eaves Gutters containing water | 90 | 48 | 48 | 42 | 19 | 60 | 67 | 69 | 89 | 45 | 61 | 51 | 689 |
| Defective Eaves Gutters containing water with larvae | 63 | 36 | 10 | 3 | 3 | 12 | 32 | 71 | 73 | 76 | 43 | 36 | 458 |
| Occasions on which mosquito larvae were found in tubs antiformicas, tir cans, &c. | 106 | 67 | 53 | 51 | 43 | 61 | 111 | 138 | 177 | 62 | 85 | 48 | 1,002 |

TABLE L.—Reports to Water and Sewerage Department.

| | Jan. | Feb. | Mar. | April. | May. | June. | July. | August. | Sept. | Oct. | Nov. | Dec. | Total. |
|--|------|------|------|--------|------|-------|-------|---------|-------|------|------|------|--------|
| Leaks, defective taps, chokes, &c., reported | 140 | 120 | 81 | 92 | 162 | 108 | 131 | 43 | 106 | 64 | 95 | 76 | 1,218 |

TABLE M.—Cases determined by the City Magistrate and penalties imposed.

| Offences. | January. | | February. | | March. | | April. | | May. | | June. | | July. | | August. | | September. | | October. | | November. | | December. | | Totals. | |
|--|----------|-------------------|-----------|-------------------|--------|-------------------|--------|-------------------|--------|-------------------|--------|-------------------|--------|-------------------|---------|-------------------|------------|-------------------|----------|-------------------|-----------|-------------------|-----------|-------------------|-----------------|----------------------------|
| | Cases. | Fines. £ s. d. | Cases. | Fines. £ s. d. | Cases. | Fines. £ s. d. | Cases. | Fines. £ s. d. | Cases. | Fines. £ s. d. | Cases. | Fines. £ s. d. | Cases. | Fines. £ s. d. | Cases. | Fines. £ s. d. | Cases. | Fines. £ s. d. | Cases. | Fines. £ s. d. | Cases. | Fines. £ s. d. | Cases. | Fines. £ s. d. | Total Cases. | Total Fines. £ s. d. |
| Keeping stagnant water in anti- formicas, &c. | 1 | 5 0 1 | | 7 6 | | | | | | | | | 2 | 10 0 | | | | | 11 | Re pri- mand | 4 | 7 6 | 25 | 3 2 6 | 76 | 8 12 6 |
| Failing to maintain eaves gutters in efficient order | | | 1 | 2 0 0 | | | | | | | | | | | | | | | 3 | | 7 6 | 1 | 2 6 | 5 | 2 10 0 | |
| Exposing foodstuffs for sale without protection from contamination | | | 4 | 10 0 2 | 5 | 0 2 | | | | | | | | | | | 9 | 3 0 0 | | | | | | | 11 | 5 2 6 |
| Failing to keep shaving mugs clean in barber's shop | | | | | 5 | 1 15 0 | | | | | | | | | | | | | | | | | | | 5 | 1 15 0 |
| Failing to maintain sewer basins clean | | | | | | | | | | | 2 | 10 0 | | | 1 | 10 0 | | | | | | | | | 3 | 1 0 0 |
| Failing to keep dustbins in good repair | | | | | | | | | | | 1 | 2 6 | | | 1 | 5 0 | | | | | | | | | 2 | 7 6 |
| Hawking milk without carrying badges | | | | | | | | | | | 13 | 1 12 6 | 1 | Re pri- mand | | | | | | | | | | | 14 | 1 12 6 |
| Selling Oysters without carrying licence | | | | | | | | | | | 1 | 2 6 | | | | | | | | | | | | 1 | 2 6 | |
| Exposing foodstuffs for sale at less height than 2 feet from ground | | | | | | | | | | | 3 | Re pri- mand | | | 5 | 15 0 | 1 | 2 6 | | | | | | | 9 | 17 6 |
| Failing to keep dustbins covered | | | | | | | | | | | | | | | 1 | 5 0 | | | | | | | | | 1 | 5 0 |
| Failing to keep Privy clean | | | | | | | | | | | | | | | | | 1 | 2 6 | | | | 1 | 5 0 | 2 | 7 6 | |
| Establishing Aerated Water Factory in a Barrack yard | | | | | | | | | | | | | | | | | | | 1 | 1 10 0 | | | | | 1 | 1 10 0 |
| Failing to keep yard free from empty tins, bottles, &c. | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total | 1 | 5 0 6 | 2 | 17 6 | 7 | 2 0 0 | | | 20 | 2 7 6 | 3 | 10 0 | | | 8 | 1 15 0 | 11 | 3 5 0 | | | 40 | 6 5 0 | 39 | 5 0 0 | 146 | 24 5 0 |

